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EARLY RECOGNITION AND ECONOMIC ASPECTS OF HEART DISEASE*

ROBERT H. HALSEY, M.D.
NEW YORK

It is the acquirement of skill in perception and logical deductions therefrom that justify the restrictions of public health measures, which are often so irksome and irritating to the individual. More accurate and more detailed knowledge of disease requires wider gathering and immediate recording of information by trained observers.

Experience teaches the value of learning what organ or function is impaired when a person is incapacitated, but the importance of applying the same known principles of investigation in public health problems is not widely recognized.

Just now it is my desire to direct attention to the incapacity and increasing number of deaths due to disease of the heart.

It has become a routine to examine a patient for the evidence of impairment of the heart during, or soon after, the occurrence of diseases such as tonsillitis, rheumatism, chorea, bone or joint pains, scarlet fever, diphtheria, pneumonia, typhoid, syphilis or gonorrhea; but in many instances active diseases or actual defects do not cause incapacitating effects until long after the destructive process was initiated and skilled observers could have recognized it. Yet it is not common for the apparently well to be examined.

To illustrate how insidious the source of the infection of rheumatism may be, it was stated recently,[1] at an interhospital conference in Budapest, that acute rheumatic fever was an infection passed to children in breast milk. St. Lawrence,[2] in a study of 100 cases of heart disease in 100 separate families, found that there were 480 other persons, adults and children, in these families, who could be considered as exposed. In the group of 580, excluding the original 100 with heart disease, he found that seventy-one, or 14.8 per cent., had had acute rheumatic infections; forty-nine, or 10 per cent., had had acute rheumatic fever, and thirty-eight, or 8 per cent., had heart disease. That is, for every hundred children with heart disease, he found thirty-eight others in the families exposed, and not all of them knew of their condition until after his examination. These figures are instructive, and are suggestive of the possibility of an actual infection distributed by contact. It does not, of course, exclude the possibility of simultaneous exposure to similar climatic and weather living conditions and to the same sources of an infection with a selective affinity for the myocardium. One can venture safely the remark that few of the exposed described above are examined regularly or frequently for evidence of active or past infection. This finding is a definite indication for the careful, general, periodic examination of all those living in contact with persons having rheumatism or heart disease, at least, until other findings corroborate or refute these.

The examination of large numbers of children attending the schools of New York City shows that there are somewhat less than 1 per cent. with organic heart disease. Assuming this morbidity to apply to the schoolchildren of the whole country, there would be approximately 200,000 children with heart disease between the ages of 6 and 16 years. Most of these children enter school with the handicap; therefore, it is clear that there is a large group of children of preschool age with heart disease.

During the war there were, up to December, 1917, 3,764,000 men sent to camp from civil life,[3] of whom 550,000 were rejected because of defects, of which 11.5 per cent. were cardiac defects, while other circulatory defects brought the percentage up to 15, which makes circulatory defects rank second as a cause of disqualification in the whole group. Organic heart disease disqualified 3.1 per cent. of all the drafted men in the second, third and fourth decades of life.

Examination of those working in industry and of those applying for life insurance finds two in every hundred handicapped by organic heart disease. Children of preschool age, schoolchildren, young men and industrial workers all show the presence of a relatively large percentage of defects due to the circulatory system.

A survey recently completed by the Association for the Prevention and Relief of Heart Disease of ten hospitals of New York City, having 7,799 beds, representing nearly 25 per cent. of the hospital beds (32,000) of the city, showed that there were cared for 4,831 patients, requiring 244,521 bed days, or nearly 10 per cent. of the total capacity (2,836,635 bed days) of those hospitals. The average daily cost was $2.69, and amounted to a total of $658,379.10, an average cost for each patient of $1,961.17.

Nov. 1, 1922, there were registered in forty-three cardiac clinics in New York 5,904 patients, or approximately 25 per cent. of the patients visiting all the outpatient departments of the city in one month. This proportion is somewhat larger than one person in

* Read before the Section of Social and Economic Sciences, American Association for the Advancement of Science, Boston, Dec. 28, 1922.

1. Acute Articular Rheumatism in Children, Budapest Letter, J. A. M. A. 79: 1441 (Oct. 21) 1922.

2. St. Lawrence, William: The Family Association of Cardiac Disease, Acute Rheumatic Fever, and Chorea, J. A. M. A. 79: 2051 (Dec. 16) 1922.

3. Ireland, M. W.: Physical Defects Discovered in Selective Draft Men During the World War, J. A. M. A. 79: 1579 (Nov. 4) 1922.

every thousand (0.1 per cent.) of the total population of New York City, 5,751,859, who are under special care for organic heart disease. This group represents an economic loss of at least $600,000, and, considered with the group cared for in the hospital beds, shows that New York City had a known loss or expense of $1,250,000 last year. This does not consider loss from impaired productivity because of unrecorded or unrecognized heart disease. The care of ambulant and bed patients with heart disease costs a large outlay in actual funds each year.

TABLE 1.—*States in Which Death Rate Was Greater than 150*

	Death Rate	Excess*
Vermont	228.5	86.6
New Hampshire	204.6	62.7
Massachusetts	195.2	53.3
New York	191.5	49.6
Maryland	165.1	23.2

* The number of points above the rate for the registration area is ascertained by subtracting 141.9 from the death rate.

TABLE 2.—*Increases in Death Rate*

	Death Rates		
	1910	1920	Increase
Washington	86.3	115.8	29.5
Minnesota	89.4	113.7	24.3
New York	167.5	191.0	23.5
Utah	83.3	106.8	23.5
Maryland	142.1	165.1	23.0

TABLE 3.—*Cities in Which the Death Rate Greatly Increased*

	Death Rates		
	1910	1920	Increase
Boston	192.8	233.7	40.9
Syracuse	168.2	215.8	47.6
Grand Rapids	123.0	155.6	32.6
Minneapolis	95.1	130.2	35.1
Chicago	140.3	158.5	18.2
New York	142.5	167.8	25.3
Borough of Manhattan	131.0	167.3	36.3

FIGURES FOR ACTUAL DEATHS

In 82.2 per cent. of the population,[4] there was a death rate of 141.9 for each hundred thousand, and the total number of deaths was 124,143, which represents 10.9 per cent. of the number of deaths from all causes.

During the six years 1915-1920, there were more deaths from organic heart disease than from tuberculosis. Several states show death rates over 150, and from 23 to 86 points above the rate for the registration area (Table 1).

Several states show increases in the death rate of 23 or more points since 1910 (Table 2).

Several of the cities show great increases in the rate for ten years (Table 3).

The increase in the borough of Manhattan was 10 points greater than for the city as a whole. Fourteen cities had death rates greater than 150, and showed from 16 to 91 points above the rate for the registration area, 141.9 (Table 4).

If the rate in the registration area outside the cities is compared with rates in the cities, a large increase is found in the cities (Table 5).

During these ten years, the rate in the registration area increased only 2.3 points, while the rate in the cities increased 15 points. The rate in cities in 1910 was only 7.3 points higher, but in 1920 it was 20 points higher than the rate in the registration area outside the cities.

4. Report of Department of Commerce, Bureau of Census, 1920, p. 49.

The number of deaths from organic heart disease in 1920 in the cities was greater than that for the registration area outside the cities (Table 6).

The total deaths from all causes in the registration area totaled 1,142,558, a rate of 13.1; in cities, 613,508, a rate of 14.2. Thus though the death rate of cities is higher and the actual number of the deaths in cities was 53.6 per cent. of all, deaths in cities from heart disease were 54.2 per cent. of all deaths from heart failure.

In the state of New York, there were 19,961 deaths from organic heart disease, or 16.07 per cent. of all the deaths from heart disease, while the total number of deaths from all causes (144,558) in the state forms only 12.6 per cent. of the total number of deaths (1,142,558) in the registration area. In Massachusetts, the deaths from all causes (53,498) are only 4.6 per cent. of the total deaths in the registration area, while deaths from organic heart disease (7,569) are 6.1 per cent. of all the deaths from organic heart disease in the registration area. Thus, in both states, deaths from organic heart disease form a relatively higher proportion of the total deaths from organic heart disease in the registration area than do deaths from all causes in each one of those states compared with the total deaths from all causes.

In the city of New York there were 9,507 deaths, or 7.6 per cent. of all deaths from organic heart disease. Thus, one in every six deaths from organic heart disease occurs in the state of New York, and one in every twelve occurs in the city of New York. In Boston (1,756), only 1.41 per cent. of all the deaths from organic heart disease occurred.

TABLE 4.—*Cities in Which Death Rates Were Greater than 150*

	Death Rate	Excess Over Registration Area
Boston	233.7	91.8
Albany	228.2	86.3
Worcester	227.6	85.7
Syracuse	215.8	73.9
San Francisco	212.2	70.3
New York	167.8	25.9
Chicago	158.5	16.6

TABLE 5.—*Increase in Cities over Rate in Registration Area Outside the Cities*

Year	Registration Area Outside Cities	Cities	Increase in Cities
1910	186.0	193.3	7.3
1920	188.3	208.3	20.0
	2.3	15.0	

TABLE 6.—*Deaths from Organic Heart Disease*

	Registration Area	Cities	
		Number	Per Cent.
White	113,059	61,669	54.5
Colored	11,084	5,660	51.0
	124,143	67,329	54.2

COMPARISON WITH MORTALITY FROM OTHER DISEASES

The importance of the mortality from organic heart disease may be stated in another way; for, in age group 1 to 4, heart disease causes one-third as many deaths as scarlet fever, and one-fourth as many deaths as whooping cough. At ages 5 to 9, heart disease causes [5]

5. Statistical Bulletin, Metropolitan Life Insurance Company 3:6 (No. 8) 1922.

more deaths than do any of the so-called children's diseases, excepting diphtheria, and has a higher death rate than pulmonary tuberculosis. Between 10 and 14, heart disease has a heavier mortality than all four children's diseases combined.

If an analysis of the deaths for 1920 is made, one finds that 621, or 0.5 per cent. of all deaths from heart failure, occurred in the first year; 1,094, or 0.8812 per cent., in the first five years; 2,015, or 1.622 per cent., in the first ten years. In the age period from 10 to 59, 38,318, or 30.86 per cent. of all the deaths, occurred, and 83,660, or 67.39 per cent. of deaths, after 60 years. After 40 years, 109,759, or 88.4 per cent. of all deaths from heart disease, occurred. Dr. Dublin[6] has said that one must not permit the relatively high death rate of later life to obscure the importance of death from heart disease in childhood, for, expectancy of life at birth is 55.08 years, while the expectation at 60 is only fifteen years.

The same author has thus stated the importance of heart disease before 1920 in terms of adult disease: Under 25 years of age, organic heart disease causes as many deaths as typhoid fever. Between 25 and 34 years of age, organic heart disease causes as many deaths as lobar pneumonia. Between 35 and 44 years of age, organic heart disease causes more deaths than chronic interstitial nephritis. After 45 years of age, organic heart disease shows a higher death rate than any other cause.

During the last nine and one-half years, life expectancy at birth has been raised from 46.63 to 55.08, or 8.45 years; but during the same period actual deaths from organic heart disease have been increasing.[7] If one considers the extension of life expectation to 65 years, as Dr. Dublin has shown in his lecture to the Harvey Society, to be quite rational with our present knowledge, the probability of adding to this expectancy by saving or preventing deaths from heart failure in the younger age group is great, as has been shown, while the possibility of reducing the high rates of some states and cities to the average for states and cities affords a second great field for prevention and economic saving.

If one assumes the population of the United States to be 106,418,175, and that 2 per cent. have organic heart disease, it would show a figure of more than 2,000,000, which, compared with the number of deaths, shows a proportional morbidity figure of seventeen cases for one death.

The extension of life expectancy one year means to this country 100,000,000 life years; and, figured at $100 a year, means $10,000,000,000. With 2,000,000 of the population directly or indirectly handicapped by organic heart disease, the production of the whole country is impaired at least $100,000,000 worth; for persons with heart disease not only cannot support themselves, but are an economic burden.

It is interesting to reproduce here the figures some statistician has collected and published, showing that in 1921 there was expended in the United States an average per capita of $10 for candy, $9 for education, 50 cents for chewing-gum, and 29 cents for health.

CONCLUSIONS

1. There is undoubtedly a large, increasing economic waste from organic heart disease, particularly heavy in the cities. The measure to which it is reducible and preventable depends on the vigor with which it is combated.

2. There is need of more education of the laity and of the profession to procure a periodic examination of the sick and the well.

3. A program must be devised which all public health agencies, correlated and coordinated, can execute without duplication of effort.

4. With a promising program, the community can and undoubtedly would give its support, so that the $9 spent for education would produce the expenditure of at least 30 cents to purchase health, as well as $10.50 for candy and chewing-gum.

152 West Fifty-Eighth Street.

6. Statistical Bulletin, Manhattan Life Insurance Company **2**: 3, 1921.

7. Statistical Bulletin, Manhattan Life Insurance Company **3**: 1 (No. 9) 1922.

THE LIFE INSURANCE VALUE OF GRAPHIC HEART RECORDS

S. CALVIN SMITH, M.S., M.D.
PHILADELPHIA

Applicants for life insurance are generally free from gross, conventional physical signs of heart disease. Persons who have such signs—shortness of breath, early limitations on effort, murmurs, cardiac enlargement, etc.—are probably aware of their limitations or are already acquainted with the physical findings in their case through previous examinations. Therefore, they do not, as a rule, expose themselves to the stigma of rejection.

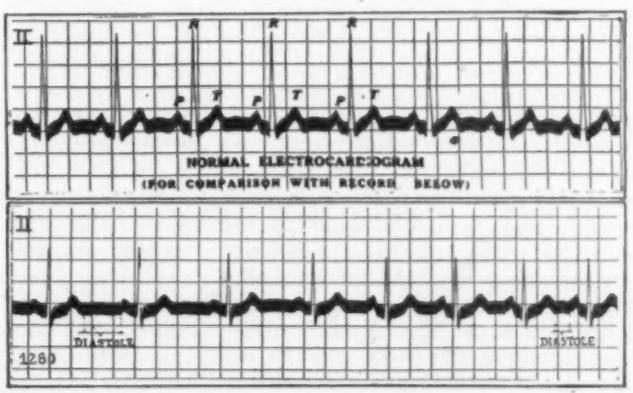

Fig. 1.—Sinus arrhythmia: The lower figure shows only a gradual shortening of the space between beats as the record proceeds. However, the normal auricular-ventricular sequence of events remains unchanged, for each P (auricular) wave is followed by the R-T (ventricular) waves.

DETECTION OF EARLY HEART DEFECTS

There is a further reason why the applicant is not likely to present any of the customary and classic signs of heart defect. The average age of those seeking life insurance is probably around 30 years. At this period of life, the powers of resistance are at their highest and vitality is at its best. Therefore, if the heart has some defect, as yet unrevealed, which may be a heritage from the infections of childhood, the defect is usually not manifest in physical signs; or if focal infections are throwing a load on the heart which may eventually result in a cardiac break, the high bodily resistance and recuperative powers of young adult life are usually sufficient to overcome the earlier signs of heart load.

Since such masked possibilities may invalidate the customary methods of heart appraisal, it is of definite value to know that in such apparently healthy men the

recently introduced methods of cardiographic examination often yield evidence of unsuspected heart conditions; conditions which, were they to continue until the age of perhaps 45, would by that time have so progressed as to be manifest in physical signs of heart fault sufficiently pronounced to constitute cause for rejection of the applicant. It is well known that there is an increased percentage of rejections for cardiovascular cause at 45 years, over similar rejections during the third decade of life; and a quite likely explanation is that, as the years advance, the wear and tear on a heart that has been resisting the effects of focal infection or resisting a heritage from the "innocent" infections of childhood may be uncovered by the manifestation of physical signs.

PHYSIOLOGIC IRREGULARITIES AND HEART PROTESTS

On the other hand, there are certain irregularities which are characteristic of the youthful heart (Figs. 1 and 2) and which are at times accompanied by auscultatory phenomena that cause the cautious examiner to reject the applicant as a potential heart risk, even though the life histories of persons similarly affected have, time and again, shown the error of such judgment. A heart record made at the time of examination would have identified the irregularity as physiologic; the acceptance of the applicant would have been warranted and the clinical judgment fortified by the physiologic record written by the heart itself. Again, it is perfectly possible for the more severe focal infections and toxins (Figs. 3 and 5) to produce clinical symptoms of heart muscle inefficiency to a degree that simulates actual structural heart disease with the attendant physical signs of heart enlargement and abnormal sounds. Such symptoms and signs are present as long as the toxic causes are present and are sufficient warrant for the rejection of the applicant. But on removal of the cause, the heart no longer protests (Figs. 4 and 6), the symptoms abate, the physical signs disappear and the heart is amply able to support the individual indefinitely.

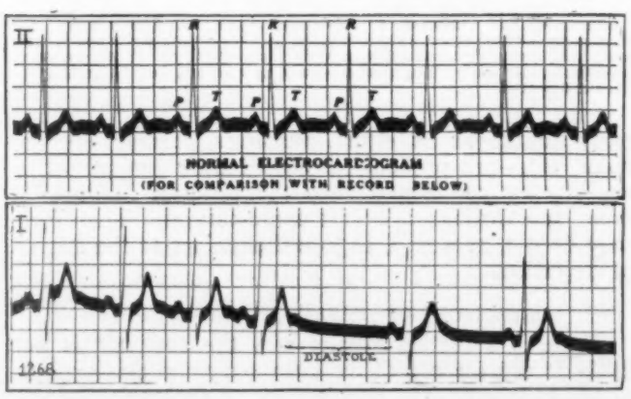

Fig. 2.—Sino-auricular block: In the middle of the lower record the diastole suddenly lengthens, as though a beat had dropped out. Here again the P-R-T sequence remains unchanged, as in sinus arrhythmia. Both irregularities are believed to be due only to a change in vagal tone.

ECONOMIC LOSS THROUGH INSUFFICIENT HEART APPRAISAL

In the first of the foregoing instances, that of the applicant rejected because of a physiologic irregularity, and in the second instance, that of the applicant rejected on account of remediable heart protests, profound economic losses have been sustained by the individual and by the corporation concerned. The applicant has not only been denied the protection which life insurance affords him or his dependents: his efficiency is impaired by the thought that rejection for heart disease is a pronouncement sufficient to curtail his activities and limit all his undertakings. The insurance companies suffer an annual loss in premiums which, in the aggregate, must be enormous. Both sources of economic loss could have been avoided in many instances by the employment of cardiographic investigation. A further avoidable source of loss is that attendant on the payment of death benefits to insured persons who, at the time of

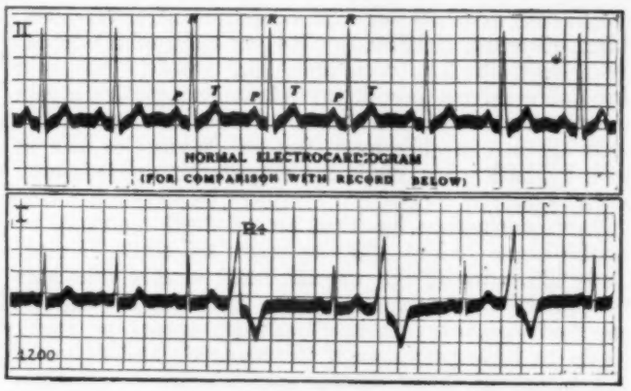

Fig. 3.—Ventricular premature contractions: The fourth R (ventricular) spike in the lower record is distorted and occurs in advance of its anticipated interval, shortening the usual flat rest period between beats. It is followed by a longer diastole than usual, called the "compensatory pause." R waves 6 and 8 are also premature.

examination, were free from the usual clinical signs of heart defect and were yet nevertheless victims of structurally defective heart musculature (Figs. 7, 8, 9 and 10), a fact which is being proved repeatedly by written heart records.

Consideration of a few recent cases will illustrate the points set forth above and will serve to establish the life insurance value of graphic heart records.[1]

ILLUSTRATIVE CASES

CASE 1.—During a routine examination for life insurance, a young man was found to be in good physical condition excepting for an irregular pulse. The previous history was negative. There were no symptoms or signs referable to a possible heart defect, nor was the youth conscious of any physical limitations. It had been noted that the pulse was more irregular in rate at the beginning of the examination than it was half an hour later; therefore the applicant was referred for cardiographic study. The record (Fig. 1) identified the irregularity as sinus arrythmia, which is a physiologic condition in youthful hearts, due to the effect of respiration on the vagus; the pulse rate increases on inspiration, decreases on expiration and remains unchanged when the breath is held. Naturally, the more rapidly a person breathes (as when under the excitement incident to the beginning of an examination), the more marked are the rate variations. On cardiographic determination of the innocent nature of the arrhythmia, the applicant was accepted.

1. In order to simplify the illustrations, only one of the customary three records is shown in each figure. (Illustrations are reduced one-third.) Each of the illustrations is surmounted by a normal record. When a heart record is normal, each group of movements begins with the P wave, which is associated with auricular contraction. This P (auricular) wave, two tenths of a second later, is followed by a tall spike called the R wave, which is associated with ventricular contraction. The R (ventricular) wave, which is synchronous with the first sound of the heart, represents that ventricular activity which produces the pulse at the wrist. The R (ventricular) wave is followed by a more slowly rising wave called T, which is also associated with ventricular activity. Following the T wave, the record is flat, and this flat line corresponds with the diastole of the heart. Every P-R-T event is a rhythmic repetition of its predecessor. Each wave is directed upward and is evenly spaced; that is, each wave occurs at a stated and regular distance from its fellows. Furthermore, every wave is the same shape and size. These features, in brief, constitute a normal electrocardiogram. The record is abnormal when one or more waves change in sequence, amplitude, direction, duration or distance.

CASE 2.—A very active youth of the athletic type had been refused life insurance on three occasions for the reason that the pulse was irregular after exercise. An agent for a fourth company was sufficiently impressed by the youth's physical powers and freedom from heart symptoms to refer the applicant for cardiographic study. The irregularity (Fig. 2) was

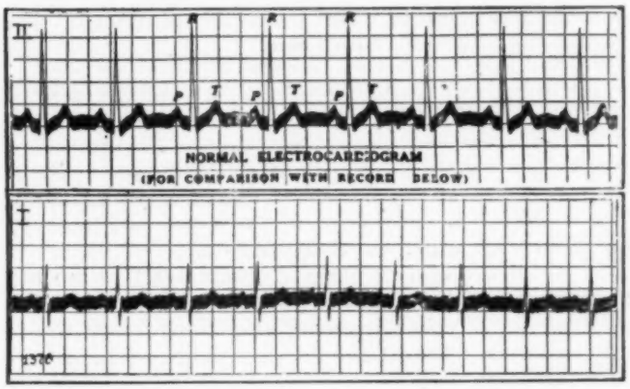

Fig. 4.—Disappearance of premature contractions: The lower record, taken several months later, demonstrates that the premature contractions shown in Figure 3 have completely disappeared, following the removal of a toxic cause; viz., infective tonsils. The record is now normal.

found to be due to "sino-auricular block," which is produced by a change in vagal control; no evidence of heart defect was found, and on submission of the record the applicant was "accepted for any amount up to $100,000"; although one wonders why any limit whatever was placed on the applicant's insurability by the accepting company.

CASE 3.—The person whose record is shown in Figure 3 was advised not to apply for insurance, as the multiple premature systoles would produce a disturbance of the pulse and a synchronous alteration in heart sounds which might readily be considered as an evidence of structural heart muscle fault. Further physical examination and bacteriologic culture

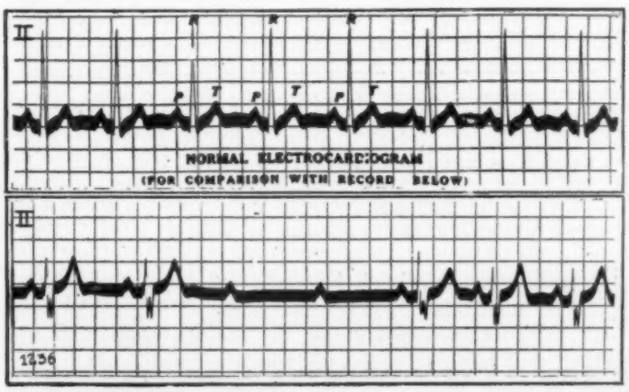

Fig. 5.—Actual dropped beats: In the lower record, the auricles continue to beat uniformly, but the ventricles fail to respond to the third and fourth auricular impulse. Following this long pause, the pulse begins to beat regularly again, as shown by the presence of the R waves.

revealed infective tonsils as a possible toxic cause of the heart disturbance, and the tonsils were removed. The pulse irregularity soon began to decrease in frequency following tonsillectomy, and after a few months disappeared completely (Fig. 4). As subsequent records remained normal, there was no cardiographic evidence of heart disturbance, and the person was advised that insurance might be applied for.

CASE 4.—The person whose record is presented in Figure 5 was considered a poor risk on account of an irregular pulse, and the graphic record established the cause of the irregularity to be actual dropped beats. The auricles contracted regularly, but at times the ventricles failed to respond. This ventricular silence was accompanied by an absence of the pulse at the wrist. The condition is a low grade heart block and may eventuate in block of higher grade; hence, it is not an insurable condition. It seemed from the history that the irregularity was present only when the patient had been drinking liquor of undetermined source and purity; when the poisonous liquor was abandoned, the pulse irregularity disappeared (Fig. 6) and, from a cardiographic standpoint, the man became insurable.

CASE 5.—Figure 7 shows auricular flutter, in which the auricles are contracting regularly at 225 beats a minute, while the ventricles average 105 beats a minute. The irregularity is a serious one, impossible of recognition by clinical examination; electrocardiographic records alone can establish its presence. On detection of auricular flutter, I should reject, without further consideration, any person in whom it had once been graphically proved; for no matter by what means it is corrected, auricular flutter has a tendency to recur. The young man whose record is presented in Figure 7

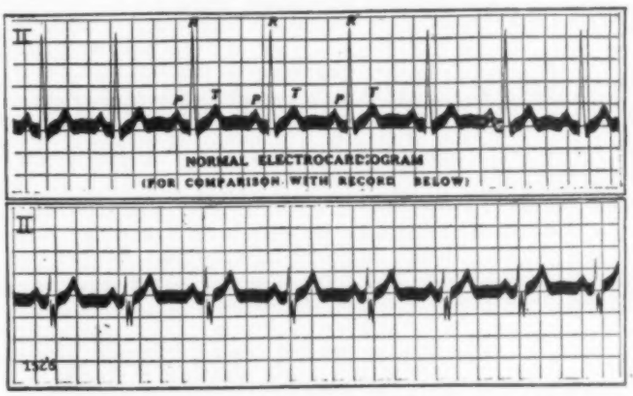

Fig. 6.—Disappearance of dropped beats: The lower record, taken a few weeks later, demonstrates that the actual dropped beats shown in Figure 5 have completely disappeared, following the removal of a toxic cause; viz., poisonous liquor. The record is now the individual's normal.

was conscious of "only a rapid beating of the heart when climbing stairs to the elevated train" and was surprised when his dentist insisted that the heart rate, during dental extraction, was too fast to be counted. Figure 8, taken after exercise, proves that the statement of the dentist was correct, for either excitement or exercise would cause the ventricles to respond to *every* auricular impulse, rather than to every other auricular impulse as before; and the pulse rate at the wrist was 255 beats per minute.

The insurance moral of this case lies in the fact that the man, two weeks previously, had been accepted by two insurance companies. It is left to the reader to estimate how long

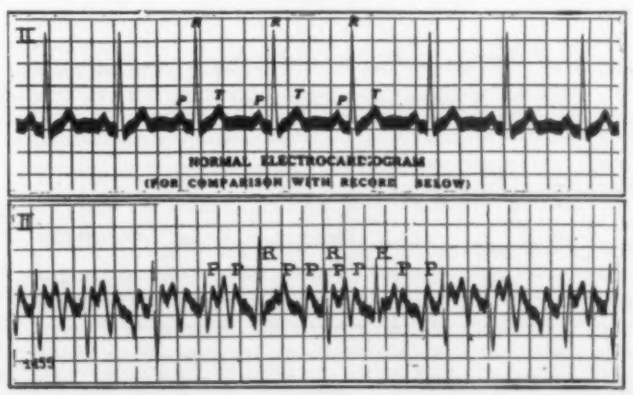

Fig. 7.—Auricular flutter: In the lower record, the auricles (P waves) are beating twice as fast as the ventricles (R waves), the rates being 255 and 105, respectively. It is impossible to establish this condition by clinical examination. Auricular flutter is indicative of serious heart muscle abnormality.

the heart may be able to respond to physical effort which raises the ventricular rate to 255 beats per minute. Certainly, an effective circulation cannot be maintained for long, and two insurance companies are likely soon to have to pay sick

benefits to a person invalided by heart disease, or death benefits to a widow.

CASE 6.—The applicant in this instance was middle aged and sought a great amount of insurance. The previous history was good as far as ascertainable, and the pulse was fairly regular; but the graphic record established that auricular fibrillation was present (Fig. 9). Auricular fibrillation, as is well known, is indicative of grave heart muscle

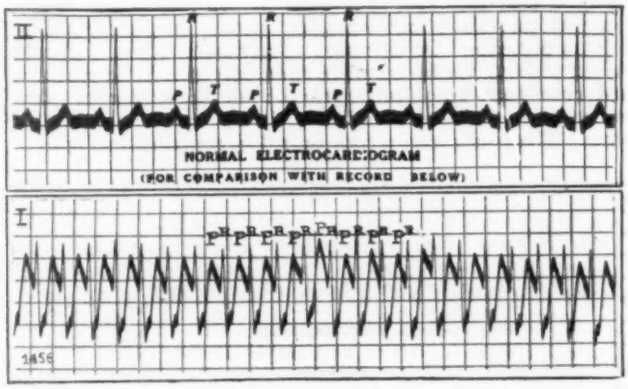

Fig. 8.—Auricular flutter aggravated by ordinary effort: The lower record shows a ventricular rate of 255 beats a minute, following the simple exercise test of stair climbing. In Figure 7, the ventricles responded only to every other auricular impulse; in this figure, the ventricles respond to each auricular impulse.

disease; in persons who are up and around, it usually signifies structural heart muscle damage, although it may occasionally be transient and of fleeting toxic origin. When confronted by the record, the applicant stated that electrocardiograms taken in Germany twelve years previously, and at intervals since, had established the same irregularity to his satisfaction, but that he had learned to modify his life so that he had no discomfort or inconvenience whatever, and had recently been insured by two insurance companies for large amounts.

The applicant, in deceptive health, was rejected on two premises: 1. Auricular fibrillation may terminate spontaneously at any time, and, when it does, emboli are likely to be set free from the enlarged right auricle, with resultant death from embolism. 2. The applicant was already middle aged, and the affected heart could not be expected to hold

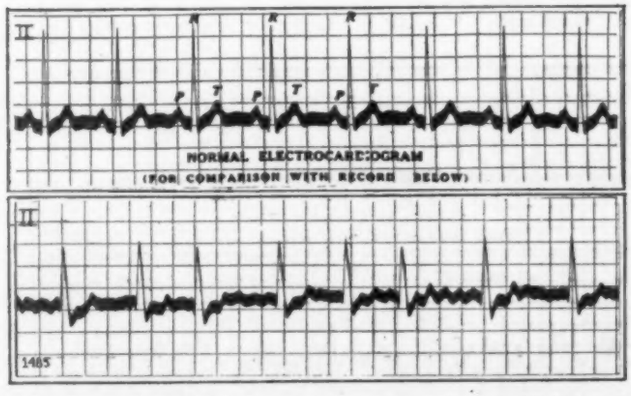

Fig. 9.—Auricular fibrillation: Despite the fact that the pulse beats in the lower record are fairly regular, as shown by the R (ventricular) spikes, auricular fibrillation is definitely established by the absence of regularly recurring, definitely formed and evenly spaced auricular (P) waves in front of the R spikes.

out as well in the future against the burden of advancing years as it had in the past, when the bodily recuperative powers were at a higher level.

CASE 7.—A man past middle age asked on his own account that a cardiogram be made, giving as his reason the fact that his curiosity had been aroused by an insurance examiner who, a few weeks before, had been "puzzled by the heart sounds." The record (Fig. 10) showed that the ventricular muscle was so structurally altered that it delayed the passage of the contraction impulse and one ventricle contracted later than its fellow. It was a cause for rejection of the applicant, had the "puzzled" examiner but desired to avail himself of the information which written heart records can often give when the heart sounds are split or unduly prolonged. The policy, however, was delivered. That was fifteen months ago. The death benefits have since been paid.

CONCLUSIONS

1. It is possible, by written heart records, to detect heart affections that cannot be recognized by any other method of examination. Thus electrocardiography is of importance in any life insurance or other examination in which a knowledge of the physical fitness of the individual is of first consideration.

2. There are certain pulse irregularities that are not an evidence of heart disease, and graphic records that establish the physiologic character of such irregularities are additional warrant for the acceptance of the applicant for insurance.

3. The heart can protest, symptomatically and physically, against the effect of toxins without being structurally diseased, and such heart protests will often

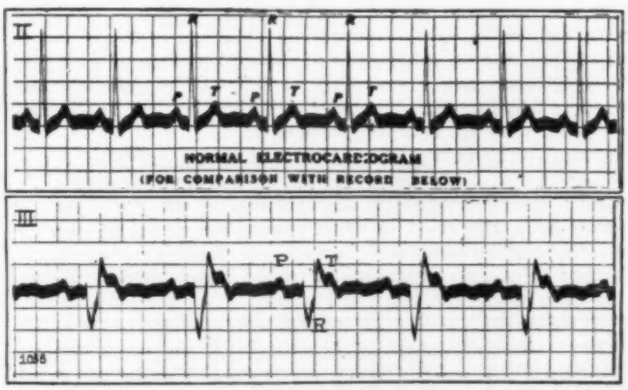

Fig. 10.—Structural change in heart muscle: "Chronic myocarditis": Because the ventricular muscle was diseased, the passage of the ventricular impulse was so delayed that the usually slender R spike (directed downward in this instance) is broadly spread out at its base; also, the distance from the beginning of the P (auricular) wave to the beginning of the R (ventricular) wave is much longer than normal, a further indication of delay in the passage of the impulse. Such a condition could be clinically suspected perhaps, but when it is established by a heart record, there is no longer room for doubt.

disappear on removal of the cause, thus rendering the applicant insurable.

4. The routine employment of cardiographic investigation will prevent economic losses to insurance companies in three ways: (1) by determining the innocent nature of certain pulse irregularities which might be considered cause for rejection by those insufficiently trained in modern cardiology; (2) by furnishing written evidence that a remediable heart fault has been corrected, and (3) by furnishing definite, indisputable evidence of structural heart muscle defect that is impossible of determination by any other method of examination.

323 South Eighteenth Street.

History of Medicine in America.—At the Sixth Latin American Medical Congress, held recently at Havana, Dr. D. Tamayo stated that, within eighty years after the discovery of America, four universities had been founded, and by the end of the third century there was a total of eleven. His address on the history of medicine in America is reproduced in *Vida Nueva* **14**:261, 1922.

PARTIAL OBSTRUCTION AT DUODENO-JEJUNAL JUNCTION AS CAUSE OF ULCER OF DUODENUM

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The most frequent cause of partial obstruction at the duodenojejunal angle is the mesocolic band, described by W. J. Mayo in 1908. Until that time the vicious circle following gastro-enterostomy was the terror of all operators. Since Mayo published his description of this band and advocated its separation before gastro-enterostomy is performed, the vicious circle after gastro-enterostomy has been rarely seen. However, he seemed to attach no importance to the presence of this band as the cause of duodenal ulcer.

My attention was drawn to its presence as a cause of duodenal ulcer in 1910. After separation of the band that extended down for 5½ or 6 inches below the duodenojejunal flexure, the contents of the stomach and duodenum were seen immediately to pass down into the jejunum. The patient appeared to be dying on the table, and the abdomen was closed without the performance of a gastro-enterostomy, although the duodenum and the pylorus were apparently involved in a large ulcer, and many large gallstones were present in the gallbladder. The patient recovered from the operation, and was apparently clinically cured of the ulcer. Two years later, she was operated on again for the relief of recurrent attacks of gallstone colic. At the second operation, no evidence of ulcer could be seen. Cholecystectomy and appendectomy were done, and she has remained clinically well to the present time.

In 1911, I observed by fluoroscopy the last portion of the test meal remain in the duodenum for more than two hours. The stomach emptied in four and one-half hours, but enough of the last portion of the test meal remained in the duodenum to be plainly seen for two hours longer. The action of the duodenum was carefully watched. Five hours after the meal was swallowed, half an hour after the stomach appeared to be empty, quite a mass was in the transverse and ascending portions of the duodenum. Ten minutes later it had returned to the first portion of the duodenum. A fairly well defined cap was present. Some of the test meal passed back through the pylorus and was plainly seen in the stomach. The last portion of the test meal made the excursion from the pyloric region to the distal end of the duodenum and back again about every twenty minutes. Pain was always present while it was returning to the pyloric region. Six and one-half hours after the meal was taken, the patient became very hungry and faint. Another test meal was given, and the stomach commenced to empty rapidly. Three fluoroscopic examinations were made four weeks apart with practically the same findings. At operation we found, not the jejunomesocolic band we expected, but a very strong ligament of Treitz that was kinking the intestine at the duodenojejunal flexure and holding it tightly against the head of the pancreas. Separation of most of the ligament of Treitz relieved the kink and afforded more room. Immediately the duodenal contents passed into the jejunum. Nothing more was done, although the large duodenal ulcer seemed to have invaded the pylorus. The patient made a good clinical recovery, and no duodenal stasis has since been discovered, although she has had several similar examinations.

Since that time we have demonstrated fifty-two times at operation that duodenal ulcer and partial obstruction at or near the duodenojejunal flexure were present at the same time, and that surgical relief of the partial obstruction permitted the duodenal contents immediately to pass freely down into the jejunum. This makes, with the two cases reported, fifty-four.

In fourteen, a definite jejunomesocolic band was present. In ten, veils or light adhesions, seemingly of inflammatory origin definitely kinking the jejunum near its origin, were found. In nine, the obstruction was due to the irregular shape of the opening through the mesocolon or to the ligament of Treitz. In six of them the duodenum was ptosed to such an extent that a very acute angle was formed at its terminal portion. In fifteen cases the obstruction was due to more than one of these causes.

The operative procedure of the fourteen cases in which there were jejunomesocolic bands consisted merely in separating this band up to the duodenojejunal flexure and covering over the raw surface on the under side of the mesocolon with peritoneum, and then attaching the jejunum to the under side of the mesocolon in such a way as to approximate the raw surface left on the jejunum after the separation of the band with the under surface of the mesocolon in such a position as to eliminate the kink. In all these cases it was turned to the left, while before operation it turned sharply to the right. The appendix was removed in five cases, the gallbladder in four; both appendectomy and cholecystectomy were done in two. Nothing else was done in three cases.

In the ten cases due to veils or inflammatory bands, the kinking seemed to be due more to twisting of the jejunum than to angulation. In two of these ten cases the bands extended entirely around the jejunum, making a definite and inelastic ring that narrowed the caliber of the intestine. Cholecystectomy was done in four of these ten cases, cholecystotomy in two, appendectomy in two, and both appendectomy and cholecystectomy in two.

In the nine cases due to irregularities in form at the mesocolic opening, the condition seemed to be aggravated in four cases by a very low pancreas, and in five by a large, irregular head of the pancreas. In two, severance of a portion of the ligament of Treitz seemed to relieve the interference at once. In four, it was necessary to notch the edge of the opening in the mesocolon and to anchor the jejunum in a different position. In three cases it seemed necessary to separate several small bundles of fibers that appeared to be narrowing the opening and constricting the intestine, and then anchor the jejunum to the mesocolon for a short distance from its origin. Cholecystectomy was done in two cases, appendectomy in one, and both cholecystectomy and appendectomy in one. In five there was no other surgical interference.

The six patients with ptosed duodenum were subjected to plication of the inferior layer of the mesocolon, notching of the edge of the mesocolic opening, and change in direction of the first part of the jejunum. Three of them were subjected to suspension of the right kidney. One had appendectomy, four had appendectomy and cholecystectomy, and one had cholecystotomy.

In the fifteen cases in which there were more than one cause for the partial obstruction, there were ptosis of the duodenum and acute angle from fixation by bands or veils of the jejunum to the right in seven.

Plication of the right mesocolon and notching of the edge of the opening and anchoring of the jejunum to the left were done. In four there was general enteroptosis, and the intestine was kinked at the flexure like a rubber tube hung on a nail. In these four cases the mesocolic opening was notched, and the jejunum anchored in the left position. A Bainbridge intestinal stasis operation was performed, with a colon, kidney and liver suspension by the Hazen method. One patient had a strong jejunomesocolic band 6 inches below the flexure, and many slight adhesions above that point, with thickening and dilatation of the jejunum proximal to the band. One had an apparent hernia of the terminal portion of the duodenum down through the opening. It appeared to be fixed at the right side of the opening but not at any other point; about 1½ or 2 inches of the left side seemed to slide down through the opening. Narrowing of the opening, anchoring of the jejunum to the left and severance of several adventitious bands were done.

The other two patients had, in addition to jejunomesocolic bands, an irregular mesocolic opening that caused the intestine to pass for a distance of 1½ inches between the folds of the mesocolon before it emerged from between the layers. As some large blood vessels were in the edge of the folds, the mesocolon was split anteroposteriorly and the peritoneum tucked into the enlarged opening and sewn in place. The jejunomesocolic band was severed and the jejunum fixed to the left. Four appendixes and two gallbladders were removed, and stones were removed from the common duct in one case. Nothing else was done in three cases.

These fifty-four cases of duodenal ulcer in which gastro-enterostomy was not done were selected from a series of 264 consecutive cases of duodenal ulcer. In the other 210 cases, gastro-enterostomy was done.

During the same period of time, gastro-enterostomy was done in thirty-two cases of ulcer of the stomach. When any obstruction is present at the pylorus, we consider gastro-enterostomy absolutely necessary.

During this period of time, while the abdomen was open for other procedures we severed a jejunomesocolic band, separated adhesions, or notched the edge of the mesocolic opening or the ligament of Treitz 310 times, when the preoperative diagnosis included "probable ulcer of the duodenum," but ulcer could not be definitely demonstrated at operation. Doubtless, ulcer was present in many of these cases but could not be demonstrated.

These fifty-four cases were carefully selected. All but eleven patients had some other operative interference at the same time, but the final clinical recovery from ulcer in all of these cases has been so satisfactory that we believe that obstruction at or near the duodenojejunal angle is at least one of the causes of duodenal ulcer.

Nine different times during the last two years the bismuth solution has been observed passing up into the bile ducts while the duodenum was being injected. In one case the gallbladder entirely filled, and its outline was definitely seen by the fluoroscope. By the time that a roentgenogram could be made, most of the solution had disappeared from the gallbladder and from the duodenum. Some very fine, soft stones were present in the gallbladder, and these showed up beautifully in the roentgenogram. They were doubtless still covered with a fine film of bismuth.

CONCLUSIONS

Partial obstructions at the duodenojejunal junction are sometimes the cause of duodenal ulcer, or make the conditions favorable for its development. In some appropriate cases, removal of these partial obstructions without gastro-enterostomy will be sufficient for the cure of the ulcer.

DEFECTIVE DIET AS A CAUSE OF STERILITY

FINAL REPORT OF FERTILITY STUDIES IN THE ALBINO RAT *

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In 1920 and 1921, working at the Bussey Institution in collaboration with Dr. Edward Reynolds [1] of Boston, I carried out certain experiments with rats to determine the effect of deficient diets on breeding and to see whether we could produce sterility by this method. The work had been suggested to us by certain effects of deficient diet as reported by Dr. E. V. McCollum [2] of Johns Hopkins University. He had found that rats on deficient diets not only failed to make satisfactory growth but often failed to reproduce. The diets used in our experiments were so designed as to permit growth (Table 1). They were, however, deficient in one or more important elements.

TABLE 1.—*Composition of Diets*

Stock Diet—Normal			
Hominy	33.25	Skim milk powder	11.0
Rolled oats	33.25	Salt	0.5
Meat scrap	22.0		
In addition, unlimited amounts of special "dog" bread with analysis: carbohydrate, 65%; protein, 15%; fat, 7%; calcium phosphate, 6.7%; fiber, etc., 6.3%.			
Diet A—Low in Calcium			
Whole wheat	67.5	Sodium chlorid	1.0
Casein	15.0	Inert substance	1.5
Whole milk powder	10.0	Cod liver oil	5.0
Diet B—Low in the Fat Soluble Factor			
Rolled oats	40.0	Salt mixture (McCollum)	3.7
Gelatin	10.0	Dextrin	40.3
Casein	5.0	Cod liver oil	1.0
Diet C—Low in Protein and Calcium			
Wheat whole	60.0	Dextrin	32.5
Sodium chlorid	1.0	Cod liver oil	5.0
Inert substance	1.5		
Diet D—Generally Deficient Diet			
Wheat bran	20.0	Gluten meal	10.0
Wheat middlings	14.0	Meat scrap	12.0
Ground oats	13.0	Alfalfa meal	20.0
Corn meal	9.5	Powdered chalk	1.5

The result of these early experiments bore out what might have been anticipated, and we did actually produce a certain number of completely sterile animals. Postmortem examination showed that there were no gross anatomic abnormalities, and sections of ovaries and testicles failed to show any noteworthy changes in these organs. We had used for our work a strain of albino rats that had been inbred by Dr. Helen D. King [3] of the Wistar Institute for thirty-three generations,

* This work was aided by a grant from the Elizabeth Thompson Science Fund.

1. Reynolds, Edward, and Macomber, Donald: Defective Diet as a Cause of Sterility, J. A. M. A. **77**: 169-175 (July 16) 1921; Certain Dietary Factors in the Causation of Sterility in Rats, Am. J. Obst. & Gynec. **2**: 379 (Oct.) 1921.

2. McCollum, E. V.: The Newer Knowledge of Nutrition, New York, the Macmillan Company, 1918; Ed. 2, 1922.

3. King, Helen D.: J. Exper. Zool. **26**: 335, 1918; **27**: 1, 1919; **27**: 29, 1919.

brother and sister mating. She had found that inbreeding at first much reduced health and fertility, but that if the individuals chosen for continuing the strain were selected for vigor, the fertility and health of the stock became restored, though at a somewhat lower level than for controls. In order to accumulate a sufficient number of these rats for our experiments, it became necessary to continue the inbreeding.

In this way we accumulated records of a good many matings of rats on normal diet. We found that there was the greatest possible difference in the fertility of the various individuals. For instance, the matings of certain individuals were practically invariably successful, whereas in other cases only one or two out of a number might be positive, and there were all degrees of variation between them. We were forced, therefore, at the outset to the conclusion that, even in this closely inbred strain, individuals varied as to fertility as well as in other characteristics. As stated above, we found that the effect of deficient diets was to produce some actual sterility; but when we came to consider the breeding records of the animals placed on these diets, we discovered that we had made all of them less fertile than those raised and kept on the stock diet. It seemed at first that we had produced a great deal of sterility. Our method had been to keep the animals on the diets at least one month, and then to mate them while still on the diet with other animals treated in a similar manner. A very large proportion of these matings was unproductive. We did not feel, however, that it was fair to conclude that the animals were sterile unless further matings had been tried. For this purpose we used highly fertile animals which had been raised and proved to be fertile on the stock diet. The result of these rematings in many cases was immediate reproduction. In thirty-seven cases it proved that both of the animals supposed to have become sterile through diet and which were unable to have young together proved to be promptly fertile when remated with these new and highly fertile partners. In many other cases, one of the original pair proved fertile.

It seemed impossible to explain these results with any knowledge at our command, and we were forced to formulate an hypothesis of relative fertility. The problem was how to explain the fact that two individuals who might have a sterile mating together would promptly reproduce with other partners. They must have been fertile in some degree all the time; but, apparently, their degree of fertility was not sufficient when combined to produce young, and yet was sufficient for reproduction with more highly fertile partners. Our theorem, in brief, was that the fertility of a mating could be expressed as the product of the fertility of the individuals concerned, and that if this mating fertility was below a certain level, which we called the threshold for reproduction, no young would result, but that if it was above this level the mating would be positive. This hypothesis we advanced in a tentative way, for we realized that we had not sufficient experimental proof to confirm it in any conclusive way. It seemed advisable to collect a large number of breeding records to test it out. As controls, we had the records of 1,381 rats bred by Dr. Castle on stock diet. They were of many varieties as far as genetic constitution is concerned, and were as a whole highly fertile. Out of 1,172 females, 1,109 were fertile, four were completely sterile, fifteen were doubtful, and forty-four were killed or died from disease or other cause. Of 209 males, 190 were fertile, seven were sterile, nine were doubtful, and three died or were killed. The fertility of this stock was therefore very high, and is to be contrasted with that of the inbred rats, in which the percentage of sterile and doubtful cases was very much higher.

We now proceeded to mate these animals with our rats of decreased fertility. As stated above, the effect of diet on the inbred animals had been to reduce fertility still further and to increase the amount of sterility. We have records of 622 matings of these inbred rats. Some of the matings were between rats whose fertility had been artificially lowered by deficient diet; some were between inbred rats naturally of lowered fertility, and some with proved animals from the control stock. Thus, every possible combination was made in our matings.[4] An analysis of these records shows that there were forty-six rats which were mated five or more times; nineteen, four times; thirty-three, three times, and forty-two with only one or two matings each.

If we for the moment disregard all those rats which had less than five matings, and classify these forty-six animals according to the percentage of successful matings which each had, we can get perhaps a rough indication of their comparative fertilities. There were only two in which 80 per cent. or better of the matings were successful; in five, between 60 and 80 per cent. were successful; in ten, from 40 to 60 per cent.; in ten, more than 20 to 40 per cent., and in five, less than 20 per cent. In addition to these, thirteen other animals proved to be completely sterile.

This immediately gives us a rough method of classifying the fertility of these individuals, but it will, of course, give a false picture to this extent, namely, that the other partner of each mating must be taken into consideration, and that a negative mating with a rat all of whose matings are equally negative should not be counted as necessarily detracting from the fertility of the first individual. In other words, the breeding record of every individual must be considered in conjunction with that of the individual with which he has been mated, and the latter in turn with the records of those other rats with which they have been mated. It will be seen that it is possible by a method of trial and error and repeated revaluation gradually to approximate figures which will represent the degree of fertility for all individuals concerned. It is convenient to make these estimates as percentages; when fertilities are so estimated, it is found that in practice the figures so obtained can be used to calculate the fertility of a mating, and to predict whether it will be a productive or an unproductive one. If equations are made, substituting for these individual fertilities as calculated, figures will be obtained giving various mating fertilities. When these are arranged in a series, it will be seen that the value for all matings found experimentally to be positive is above a certain figure, and, on the contrary, all those that proved to be unproductive will be below that figure.

This figure proves to be in the neighborhood of 0.50, or 50 per cent. We gave it the name of the threshold for reproduction. There were, however, certain exceptions to the general rule, but it was found that they were grouped closely about this level. In order to explain these anomalous cases, we put forward the suggestion that, instead of a rigidly fixed value, such as 50 per cent., for the threshold, there is rather

4. These records are being published in greater detail in an article to appear shortly in the American Naturalist.

a doubtful zone extending above and below it. With this change we can now state definitely that all matings above the doubtful zone were positive, and all matings below were negative. With our present rough methods of estimating individual fertilities, it is impossible to predict certainly whether a given mating will be positive or negative if it falls within this zone.

If this theory of the threshold value for fertility is accepted as a working hypothesis, it proves to be of the greatest help in further correcting some of the estimations of individual fertilities.

These estimated values have been gathered together in Table 2 and arranged in five columns. The first column is made up from 1,300 odd breeding records furnished us by Dr. Castle as controls. These were

Table 2.—*Fertility Distribution* *

	Castle Rats on Stock Diet	King Rats on Stock Diet	Fertile Adults on Deficient Diets	Growing King Rats on Deficient Diet	Growing King Rats on Special Deficient Diet
100	1,299 individuals	1, 3, 4, 5, 6, 9, 12, 24, 25, 26, 45, 48, 49, 50, 51, 52, 67, 69, 70, 118, 53		87a, 95b	
90			3b.		
		66, 80		35b, 54b, 57a, 62a, 72b, 97b, 58b, 92a	122, 123, 125, 130, 132, 137
80					
	1 individual		4b, 5b, 26b, 67b, 25b, 48a?	27b, 36b, 37b, 71b, 74b, 75b, 77b, 83c, 84c, 86c, 93a, 94b, 104a, 59b	94, 124, 128
70					
		44, 63, 64, 68	6c, 12c	16a, 61c, 76a, 78a, 101a, 103a, 105a	131
60			9c?		
	8 individuals	43		32Fb, 55b, 73b, 88a, 96b, 106b, 107b, 108b, 15c, 21a, 28b, 17c, 85a, 99a, 100b	120, 126, 146
50		65, 79			
	8 individuals				
40					
		116	24b, 50c, 51b, 52c, 60c, 53a	13c, 14c, 18c, 19c, 20a, 29a, 30b, 32Ma, 34b, 38a, 39a, 56c, 60c, 81c, 82c, 96b, 102a	119, 121, 127 129, 136, 143
	10 individuals				
		Spontaneous variation in fertility of inbred (King) rats	Effect of deficient diets on fertility of inbred adults	Effect of deficient diets on fertility of growing inbreds	Effect of generally deficient diet on growing inbreds
0					

* Numbers are experimental numbers assigned individual rats. When followed by a small letter a special diet is indicated; a stands for Diet A; b stands for Diet B, and c for Diet C. For the explanation of this table, the reader is referred to the text.

between vigorous animals raised and mated on the stock diet. Their genetic constitution was, as stated, of the most varied type. The second column is made up of all the inbred albino rats on the stock diet of which we had definite records. The last three columns show the effect of various deficient diets on the fertility distribution among the inbred rats. The third column is for adults which had been raised to maturity on stock diet, and whose fertility had already been proved before they were submitted to the deficient diets. The fourth and fifth columns show the distribution for young inbred albino rats that were allowed to grow to maturity on the deficient diets (compare Table 1, Diets A, B, C and D). As will be noted, the control animals are recorded by totals only, whereas the experimental number of each of the other rats is given. These numbers are arranged on a fertility scale from 100 per cent. down to zero. The small letter after each number designates the particular diet to which that rat was submitted, and an analysis of these diets is given in Table 1.

Study of Table 2 brings out several interesting facts. The typical fertility distribution for highly fertile animals on a normal diet is shown in the first column. It will be observed that a good 95 per cent. are in the most fertile class; that there are a few animals which are of lesser degrees of fertility, and that there are a few more which are sterile.[5]

Column 2, while showing a somewhat similar distribution to the preceding, has more animals that are relatively less fertile. The series is too small to form a basis for deciding on the percentage of actual sterility developed by inbreeding; furthermore, when one considers the method by which these animals had been bred (only from those selected for vigor), it will be seen that this will be no true guide as to the effect of inbreeding on the production of sterility. Columns 3, 4 and 5 show that the effect of deficient diets on fertility is greatly to increase the numbers of relatively infertile and sterile animals, and this is true for adult animals as well as for growing animals, though to a lesser extent. The effects of the individual diets do not vary materially, except that the effect of Diet C, which is defective in two elements, is much greater than for either A or B, which are defective in only one. The diets used with the rats in Column 5 were generally deficient and were not specially designed, as were Diets A, B and C. They were made up chiefly of cereal products, and were lacking in vitamin content and succulence (Diet D, Table 1, gives the typical analysis).

The kind of dietary deficiency, therefore, is not important. It seems rather to be the degree, since, the greater the deficiency, the larger the proportion of sterility. The way in which the diet seems to affect sterility is through its general effect on the health of the individuals. The less the effect on health, the less on the average the effect on fertility.

CONCLUSIONS

There may be great individual variation in fertilities. Such variation is increased by inbreeding and by deficient diet. When the variation is great, the amount of sterility is also great. There are individuals whose fertility is so low that they are unable to reproduce with one another, but whose fertility remains sufficiently high to allow immediate and successful reproduction with highly fertile individuals. We have formulated a theory of fertility to explain these facts. It may be thus summarized: The fertility of a mating is the result of the product of the fertility of the two individuals concerned. If this mating fertility is above a certain level, the mating is productive; if not, it is unproductive. This level we have called the threshold of reproduction. A fairly large series of further matings and rematings has seemed to confirm this theory, at least in its general aspects. The subject requires further experimental study, and it would be interesting to determine whether there is any hereditary factor involved in fertility.

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5. Postmortem examinations of these ten sterile rats showed nothing abnormal except pyometra in one female, and pus in the seminal vesicle in one male.

Phases of Hospital Work.—There are two main phases of hospital work to be kept in mind. The first is concerned with the advancement of medical science, the second with the care and cure of those who apply to the hospital for healing.—Howard and Lennox, *Mod. Hosp.* **20**:119 (Feb.) 1923.

HYPERTENSION HEART

THE MOST COMMON FORM OF SO-CALLED CHRONIC MYOCARDITIS *

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Preventive medicine has scored great triumphs in the realm of epidemic and infectious diseases, reducing the death rate from these diseases in civilized countries remarkably. This reduction is largely due to the accurate knowledge of the etiology of these affections gained through scientific studies on their causative organisms.

Whereas the death rate from epidemic diseases in consequence of our knowledge of their pathogenesis has on the whole been falling, the death rate from chronic diseases, notably cancer and heart disease, has been rising, 124,000 persons having died of organic heart disease, exclusive of acute endocarditis and pericarditis, in 1920.[1] Heart disease has now become the leader of the forces of death.

If we are to prevent heart disease in the future, or even increase the expectancy of persons having it, we must increase our knowledge of the factors concerned in its production. In this paper I shall attempt to prove that hypertension is the most important factor in the etiology of chronic heart muscle disease.

Chronic heart disease usually developing after the age of 40, due to a primary failure of the heart muscle and unassociated with valvular defect,[2] is generally termed chronic myocarditis.[3] Foci of chronic infection somewhere within the organism are most frequently assumed to be the cause of this heart muscle weakness. The greater majority of these hearts show marked hypertrophy and dilatation of the left ventricle, and diffuse connective tissue proliferation between the muscle bundles as well as into the muscle bundles. In addition, cicatricial patches are found, though much less frequently than generalized connective tissue proliferation. The above mentioned histologic changes are found in the heart muscle of those chambers of the heart that are called on to do increased work, and apparently are not due to inflammatory processes to any great extent.

For example, I found a great hypertrophy of the muscle of the right ventricle and auricle, the typical interfascicular and intrafascicular increase of connective tissue and large scars in the right ventricular musculature in two cases of marked pulmonary stenosis of congenital origin recently seen at necropsy. There was no microscopic evidence of active inflammation or of healed inflammatory processes in the heart muscle, and no history of any more than the usual amount and kind of childhood infections, as measles, mumps and an occasional cold. Both children had lived until late adolescence. Both had attempted to keep up so far as possible in work and play, and had shown signs of gradually increasing myocardial weakness. Here the chambers of the heart called on to do an excessive amount of work, and only these, had responded by hypertrophy, connective tissue proliferation and scarring. The left ventricles were slightly atrophied. To assume that a chronic infection extending over fifteen years and localizing only in the right ventricles and auricles was the cause of the histologic changes and heart failures in these cases is to do violence to our sense of logic.

The medical department of this university recently saw a patient with bronchial asthma of apparently great severity present since the age of 3 years, who died of heart failure at the age of 19. Necropsy revealed a marked hypertrophy and dilatation and some slight connective tissue hyperplasia of the right ventricle and auricle only. There were no signs of infective processes in the heart muscle. The left ventricle was normal. Here, again, that part of the heart called on to do increased work in overcoming the increased peripheral resistance in the alveolar circulation during forced expiration showed the most common findings of chronic heart muscle disease.

In cases of arteriosclerosis of the finer pulmonary arteries of such a degree that an increase in the pressure of the lesser circulation is necessary to keep up an adequate blood flow, hypertrophy and connective tissue hyperplasia are found in the right ventricle. The left ventricle of these patients usually shows no change. In valvular disease of the heart, the hypertrophy and connective tissue increase of the heart muscle are always found at necropsy in those chambers doing increased work.

It is true that in some hearts coming to necropsy with the diagnosis of chronic myocarditis, focal lesions strongly indicative of inflammatory processes are sometimes found. But, as Aschoff [4] has remarked, after a most careful examination of 150 hearts, the amount of apparent anatomic damage due to inflammatory processes both in chronic heart muscle insufficiency and in rheumatic fever heart disease is usually so small that other factors must be invoked to explain the progressive heart failure resulting finally in these conditions.

Stadler [5] has produced myocardial changes, such as hypertrophy, interfascicular and intrafascicular fibrosis and the cardiac edema and lymphatic infiltration described by Letulle,[6] by aseptically producing aortic and tricuspid valve lesions in animals which were kept alive for months after the operations. The myocardial changes were always found in the chambers called on to do increased work. The myocardium of these hearts corresponds histologically very closely to the usual picture of heart muscle in chronic heart muscle disease. Only the small and large scars frequently seen in so-called chronic myocarditis and due to small and large vessel thrombi are lacking in the heart muscles of these experimental animals.

No one has ever produced experimentally by inoculation with micro-organisms cardiac hypertrophy and interfascicular and intrafascicular fibrosis, the most common histologic changes in so-called chronic myocarditis. I therefore believe that there are no good grounds for assuming that chronic infections are the most important or the primary etiologic factor in the production of chronic heart muscle disease. On the other hand, I do not wish to be misunderstood. I recognize certain types of chronic heart muscle disease, as, for example, abscess in the walls of the heart, rheumatic fever nodules of Aschoff, and parenchymatous degeneration, due to invasion of micro-organisms. But the cases are rare in which a heart muscle is so extensively invaded by

* From the Department of Medicine, University of Minnesota Medical School.

1. Mortality Statistics, 1920.
2. Relative mitral insufficiency or relative tricuspid insufficiency is not included under valve defect. The valve is not damaged, but the muscle narrowing the insertion of the valve leaflets is ineffective in narrowing the ring to its normal systolic diameter.
3. Christian: Chronic Myocarditis, Tr. A. Am. Phys. **33**: 67, 1918.
4. Aschoff: Die heutige Lehre von den pathologisch-anatomischen Grundlagen der Herzschwäche, Jena, 1906.
5. Stadler: Experimentelle und histologische Beiträge zur Herzhypertrophie, Deutsch. Arch. f. klin. Med. **91**: 98, 1907.
6. Letulle: Recherches sur les hypertrophies cardiaques secondaire, Thèse de Paris, 1879.

inflammatory processes that these areas are sufficient to explain the myocardial insufficiency. It is therefore necessary to seek for other etiologic factors for chronic heart muscle disease not accompanied by valve defect.

INCIDENCE OF HIGH BLOOD PRESSURE IN FAILURE OF HEART MUSCLE

Dr. E. T. Bell of the department of pathology of the University of Minnesota suggested to me that hypertension must be associated with most of the cases of chronic heart muscle disease unassociated with chronic valvular disease. Following his suggestion, I have investigated the subject and have come to the conclusion that approximately three fourths of all so-called chronic myocarditis is due to a primary hypertension. Allbutt [7] and others have emphasized the frequency of heart failure in hyperpiesia, but I know of no one who has attempted to explain the majority of heart muscle failures unassociated with valvular defect on the basis of chronic hypertension and its effects on the heart muscle.

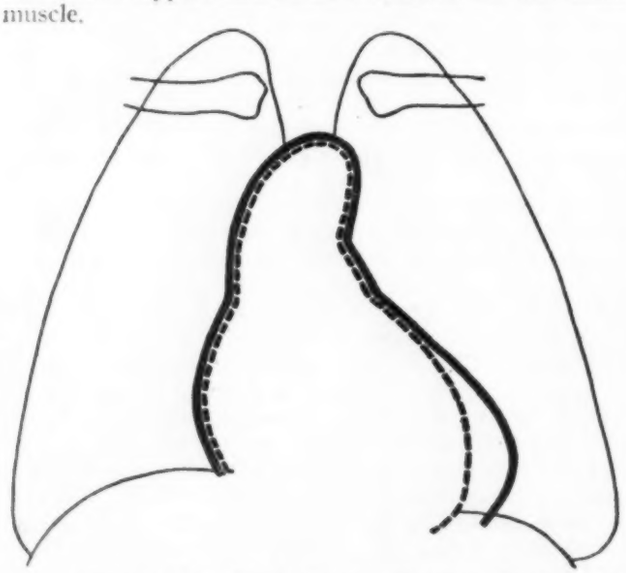

Fig. 1.—Frontal projection of pure left ventricular dilatation: solid line, aortic and hypertension heart outline; broken line, normal outline.

In 1918, Christian [8] showed that in 45 per cent. of 400 cases so diagnosed at the Peter Bent Brigham hospital, there was a systolic pressure of 170 mm. of mercury or higher.[8]

I have examined the records of 142 cases diagnosed "myocardial insufficiency" or "hypertrophy and dilatation of the heart" at the Minneapolis General Hospital and at the University Hospital during 1922, and find that 109, or 75 per cent., had a systolic blood pressure record of 170 or over, and a diastolic pressure of 100 or over. About 10 per cent. of these cases came to necropsy and showed marked increase in weight of the heart, largely due to left ventricular hypertrophy.

It is well known that blood pressure not infrequently falls in hyperpiesis when cardiac insufficiency sets in. Moreover, blood pressure tends to fall in later stages of hyperpiesis, especially when arteriosclerosis of the larger vessels predominates, and tends to lower resistance. Some of our patients with chronic myocarditis were in the last stages of heart failure when they entered the hospital, and the blood pressure record taken only a few hours before death showed a pressure lower than 170 systolic, in consequence of which the case counted in our statistics as unassociated with high blood pressure, despite the fact that the patient may have had a very high blood pressure for years previous to the period of heart failure. Two of these cases in which there was a systolic blood pressure of only 140 were demonstrated at postmortem by Bell to present the typical picture of arteriosclerotic kidneys in the moderately advanced stage, so that there can be no doubt that these patients carried around with them high blood pressures for several years. I do not hesitate, therefore, to assert that our figures are probably lower than the actual incidence of high blood pressure in cases of chronic heart muscle failure at these two hospitals for 1922.

Traube and Sahli [9] have emphasized hypertension as a result of heart failure. The mechanism whereby increased blood pressure would result from heart failure was assumed to be an asphyxia of the medullary vasomoter center in consequence of lowered oxygen and increased carbon dioxid content of the arterial blood. In my estimation, high blood pressure of this type is an exceedingly rare condition. As a rule, the blood pressure falls somewhat during decompensation and rises during compensation in chronic heart muscle disease. This was the rule in our cases whenever blood pressure records were taken systematically over the period of compensation and decompensation. There was not a single instance in which the evidence favored a diagnosis of high blood pressure in consequence of stasis. We know that rest in bed results frequently in a drop in blood pressure in hyperpiesis, and it seems probable that some of the instances of supposed "high blood pressure of stasis" are simply those of a fall in pressure due to rest in bed with concomitant improvement of the heart. The systolic blood pressure in the majority of our cases was over 200. When the high blood pressure of medullary asphyxia results only in an increase of a normal systolic pressure of from 120 to about 160, the pulse frequency falls about one half. There was no evidence of vagus slowing in our records. It would seem that an increase in blood pressure due to heart failure is a factor of little importance in our statistics.

HIGH BLOOD PRESSURE AS PROBABLE CAUSE OF HEART MUSCLE FAILURE

Having pointed out the high incidence of high blood pressure in chronic heart muscle failure, it becomes necessary for me to show that it is the probable cause of heart failure. Allbutt,[7] the best informed student of hyperpiesis, remarks on the frequency with which these patients develop heart failure. Krehl,[10] in his treatise on heart muscle disease, attributes a certain amount of heart failure to high blood pressure. Romberg,[11] in his treatise on heart disease published in 1921, states that 35 per cent. of all chronic heart muscle disease is associated with arteriosclerotic kidney, which is equivalent to saying that at least 35 per cent. of chronic heart muscle disease is associated with chronic hypertension.[12] Forty-five per cent. of 117 patients with nephrosclerosis who came to necropsy in his clinic died of heart failure; 44 per cent. died of apoplexy, and only 11 per cent. died of uremia. His percentage for apoplexy seems very high. Bell, in reviewing the necropsy findings of some 4,000 necropsies performed here, finds that in approximately 70 per cent. of all those cases that could be proved to be cases of hyper-

7. Allbutt: Diseases of the Arteries, London, 1915.
8. It is only fair to Christian to state here that he did not attribute much importance to the blood pressure as a cause of chronic myocarditis in his cases.
9. Sahli: Tr. XIX Kong. f. inn. Med., 1901.
10. Krehl: Die Erkrankungen des Herzmuskels, Wien, 1913.
11. Romberg: Krankheiten des Herzens, Ed. 3, Leipzig, 1921.
12. The mean blood pressure in Romberg's cases of arteriosclerotic kidney was 184 systolic and 102 diastolic.

tension [13] by clinical records or shown with reasonable surety to be such by the pathologic findings, the patients died of heart disease. My own series of cases of hypertension not associated with glomerulonephritis contains a large proportion of early cases, so that it does not give an accurate idea of the proportion of cases that will finally end in death from cardiac failure. Despite the fact that many of my patients are in the earliest stages of hyperpiesis, 75 per cent. of them show definitely dilated hearts on accurate roentgen-ray examination. About 30 per cent. show mild or severe degrees of heart failure, as dyspnea on exertion, edema of the lower extremities, winter cough, paroxysmal attacks of cardiac asthma, enlarged liver, and angina pectoris. Not 5 per cent. show marked renal insufficiency at the present time. It looks very much as if the greater majority of these patients are destined for a death from heart failure.

Pathology offers some very good indirect evidence that chronic heart muscle failure is frequently associated with hypertension. Hecht,[14] in analyzing the results of 4,000 necropsies, finds that if valvular disease and chronic glomerulonephritis are excluded, 72 per cent. of all hearts showing hypertrophy and dilatation of the left ventricle are associated with arteriosclerotic kidneys. As arteriosclerotic kidney of this type is always associated with hypertension, it is clear that something like at least 70 per cent. of all chronic heart muscle disease must be associated with hypertension. Bell, in reviewing the necropsy findings of 4,000 necropsies performed here, finds that something like 70 per cent. of all the hearts of bodies showing the anatomic signs of cardiac decompensation and weighing over 400 gm. show left ventricular hypertrophy and dilatation, and no valvular defect to explain this hypertrophy. Increased blood pressure alone could give left ventricular hypertrophy and dilatation when aortic disease is excluded, for increased work of the heart due to increased minute volume must affect all chambers equally.

There is very good roentgen-ray evidence also that most of the so-called myocarditis or chronic myocardial insufficiency is associated with hypertension. I have now followed a large number of hypertension cases over varying periods of time with accurate roentgen-ray examinations. Some of these patients have been examined by the orthodiagraphic method and some by the teleroentgenographic method. The most common finding is the so-called "sabot" shaped heart (Fig. 1). This shape of heart is also found in aortic regurgitation. It represents a left ventricular dilatation without right ventricular dilatation. When these hearts fail, they frequently assume the form shown in Figure 2, which represents right ventricular as well as left ventricular dilatation. The failing heart in aortic regurgitation frequently assumes the form of Figure 2 also. I have seen a normally shaped heart under the influence of hypertension assume the form of Figure 1, and have seen Form 1 go over into Form 2 within one month's time during the development of a severe and fatal heart failure. Figure 1 can therefore be taken to represent the form of hypertension heart as well as that of the aortic heart. Figure 2 can be taken to represent the end stage of hypertension heart and aortic heart, though cases of both aortic disease and hypertension heart may prove fatal before Form 1 develops into Form 2.

13. Hypertension associated with glomerulonephritis was excluded from these statistics by microscopic examination of the kidneys.
14. Hecht: Statistisches über die Ursachen der Herzhypertrophie, Zentralbl. f. Herz. und Gefässkrankheiten **10**: 169, 1918.

Eight years ago, while practicing orthodiagraphy at Bad-Nauheim with Professor Weber, I was struck by the number of "sabot" shaped hearts among patients with chronic myocarditis. I have followed this subject for about eight years, and find that at least 75 per cent. of all hearts diagnosed "chronic myocarditis" "myocardial insufficiency" or "myocardial degeneration" show this type of heart. A few show the Type 2 form, mostly badly decompensated cases. Only hypertension and aortic disease can produce Type 1, for it represents a nearly pure left ventricular dilatation. As soon as mitral incompetency develops, the form approaches Type 2, which represents left ventricular dilatation, bulging at the conus pulmonalis area, right ventricular dilatation and right auricular dilatation. It is very interesting and suggestive that practically all our cases of hypertension heart roentgenographed this year by a most competent radiographer were diagnosed "aortic type of heart" by him when the heart was of Type 1, and "mitral disease" when the form approached Type 2.

Fig. 2.—Frontal projection of left and right ventricular dilatation: aortic and hypertension heart outline in later stage after relative mitral insufficiency has developed; stippled line, normal outline.

I feel that the roentgen-ray evidence at present proves that about 75 per cent. of all heart muscle disease is associated with hypertension when valve defect is not present.

WHY THE HYPERTROPHIED HEART FAILS

I feel that the foregoing evidence proves that at least 75 per cent. of all chronic heart muscle disease unassociated with valve defect is due to hypertension. Why the hypertrophied heart fails, we can only conjecture at the moment. I am engaged on experimental work designed to get at the solution of this problem, and at present care only to point out that the heart in hypertension performs an amount of work far in excess of the work performed by the hearts of most athletes. It is to be remembered that the blood pressure in hypertension remains elevated throughout the day, dropping to nearly normal only during the night in early cases. Later on it remains above normal during the night also. If we assume a systolic blood pressure of 200 and a day of sixteen hours, then the hypertension heart performs approximately 65 per cent. more work during the sixteen hours than a heart in which the blood pressure is 120. Krogh has shown that the minute volume in severe exertion can be increased seven

severe exertion the blood pressure rises to 160, then it is easy to see that only when this severe exertion is performed continuously for about two hours and fifty minutes every day does the increase in work done by the heart equal that done by the hypertension heart. The increase in work done by the heart of the average athlete does not compare with the increase in work done by our hypertension heart. The factor of fatigue may very well be one of the factors in finally bringing about heart failure in hypertension.

Hill [15] has shown that the efficiency of the isolated voluntary muscle is less at high than at low tensions. Palmen [16] has shown that fatigue takes place sooner in a muscle doing the same amount of work per minute when the weight lifted is greater and the path shorter than when the path is longer and the weight correspondingly lighter. Finally, Evans [17] has shown that increasing the work of the heart by increasing the systolic pressure from 120 mm. to 160 mm. of mercury decreases the mechanical efficiency of the heart about 8 per cent., whereas increasing the work of the heart an equal amount through minute volume increase decreases the mechanical efficiency only about 2.5 per cent. In other words, a given increment of heart work probably causes greater fatigue when brought about by raising the pressure than when brought about by raising the minute output. Unquestionably, the rapid reduction of the mechanical efficiency of the heart muscle when it is forced to work against increased pressure is an important factor in inducing fatigue of the heart muscle.

In addition to this, I wish to point out that the hypertrophic heart muscle fiber is placed at a disadvantage in metabolism. All anabolic substances, as well as catabolic products, must enter or leave the cell through the cell membrane by diffusion. When a fiber enlarges, it does so only in diameter and not in length. The volume of the cell increases as the square of the diameter, the cell surface only as the diameter. If, therefore, the metabolic processes are proportional to the volume, the hypertrophic muscle fiber is placed at a disadvantage in the exchange of nutritive substance and waste products. The heart muscle remains contracted a larger fraction of the heart cycle when increased pressure is to be overcome, and it is possible that the consequent increase in the time during which the coronary flow is shut off is also a factor.

My examination of the case records used in my statistics revealed no evidence for the assumption that infections are an important factor in the production of heart failure in chronic heart muscle disease. Most of the patients showed no fever or leukocytosis. When there was fever, bronchopneumonia was usually diagnosed by the intern or attending staff man. On the other hand, I have frequently seen a case of hypertension holding its own up to the time of onset of severe upper respiratory infection, when decompensation would set in abruptly and terminate the case in a few weeks. That acute infections may cause enough damage to bring about severe decompensation in already weakened hearts is a fact of such universal observation that it can hardly be questioned. It is possible that chronic foci of infection do have an adverse effect on the overworked heart in hypertension. It remains for some one in the future to demonstrate this conclusively and to show quantitatively how great this factor may be. At present, the effect of chronic foci of infection on the heart in hypertension is more a matter of belief than of demonstration.

15. Hill, A. V.: J. Physiol. **46**: 435, 1913.
16. Palmen: Ueber die Einwirkung verschiedener Variabeln auf die Ermüdung, Skand. Arch. f. Physiol. **24**: 198, 1910.
17. Evans and Matsuoka: The Effect of Various Mechanical Conditions on the Gaseous Metabolism and Efficiency of the Mammalian Heart, J. Physiol. **49**: 378, 1914.

IMPORTANCE OF HYPERTENSION HEART TO THE PHYSICIAN

In 1920, more than 96,500 persons 45 years of age or older died of organic heart disease exclusive of acute endocarditis and pericarditis, 18 per cent. of all deaths in persons 45 years or over being due to this cause, according to the official mortality statistics. From a careful study of necropsy data as well as statistical data which I have collected on the incidence of valve defect, I believe that if we allow 6 per cent. of all deaths for valve defect and syphilitic aortitis, we are allowing more than is justified. This would leave 60,500 deaths for chronic heart muscle disease. Assuming that our figure of 75 per cent. is fairly accurate, we may reckon that 48,500 persons 45 years of age or older died of hypertension heart in 1920. In the same year, 60,500 persons 45 years of age or over died of cancer and other malignant tumors. The importance of hypertension heart is of the same order as that of cancer.

CONCLUSIONS

1. Hypertension is the most constant and most important factor in causing chronic heart muscle disease, often called chronic myocarditis.
2. About 75 per cent. of all cases of chronic heart muscle disease are associated with hypertension, or follow in its wake.
3. Chronic or acute infection plays a minor rôle in the production of heart muscle disease. Acute infection is an adverse factor in chronically weakened hearts.
4. Approximately 50,000 persons in the United States die of hypertension heart every year.

THE SURGICAL MANAGEMENT OF PATIENTS WITH GOITER*

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Perhaps in no other morbid condition does preoperative management count for more than in the patient with toxic goiter. In many respects, such patients react to surgical intervention not unlike epileptic and other neurotic patients; that is to say, one should be prepared for the unexpected. Despite intensive, continuous studies by the clinician, the goiter problem has baffled all attempts at standardization.

Disease of the thyroid is marked by distinct periods of rise and fall in the severity of the symptoms and intervals of quiescence. It is chiefly in the misinterpretation of the ebb and flow of these clinical phenomena that we ride to a fall in the management of patients with goiter. The history sheet should indicate the status on admission, i. e., whether the symptoms are increasing in severity, becoming less annoying, or are stationary.

One should determine as fully as the means at his command will admit the physiologic condition of the patient, with especial reference to the functional activity of the heart, liver, kidneys and nervous sys-

* Read before the Mississippi Valley Medical Association, Rochester, Minn., Oct. 10, 1922.

tem, before suggesting any line of treatment. Laboratory methods for determining metabolic rate and calcium content and the clinical reaction of the patient to epinephrin have, in a limited personal experience, been disappointing in results. Definite knowledge of the urinary output and of the intake of food, and its digestion and assimilation, is highly essential to success in the management of these patients. Observation of the patient's ability to withstand work and the influence of exercise and rest on the musculature of the heart is of signal value in determining the course of treatment necessary to bring such patients to the operating table in the best possible condition.

The history of the reaction of the patient's nervous system to the strain of his daily duties will give valuable evidence relating to the extent to which pathologic change and functional derangement have taken place in the various organs. An experienced clinician subconsciously observes the appearance of the eyes, skin, hair and nails in his attempts at interpreting the patient's physical condition.

The correlation of clinical and laboratory evidence will be of greatest value when we cease to give the latter precedence if it conflicts with the clinical history and physical findings. By far the greater number of patients with toxic goiter are suffering from acidosis; furthermore, the physical exertion which such patients put into their daily lives is not commensurate with the wear and tear they experience.

Mental and physical rest is the chief requisite in the preoperative management of toxic patients. In order to secure the fullest benefits from this measure, the physician must possess the unqualified confidence of the patient, and establish a mental repose wherein the patient becomes subservient to the persuasive commands of the physician, whose directions he obeys implicitly without asking why. In gaining this influence, the first move on the part of the physician should be directed toward disarming the patient's mind of all apprehension relative to final recovery from the disease. This is the stepping stone to controlling the mental trend and physical action of the patient.

The marked change for betterment in symptoms that follow a few hours of mental calm and physical relaxation are evidence of the merits of this plan. Manifestly, such patients should never be placed in the ward amid the confusion attendant on the going and returning of patients to and from the operating pavilion, and their recovery from anesthesia.

Physiologic repair and its ancillary rest, at best only relative terms, are insufficiently comprehended by physicians in their relation to the management of patients with toxic goiter. Rest, to be beneficial, must include repose not only of the body but also of the mind and the diseased organ. From this point of view, rest becomes, indeed, the balmy restorer, whose purpose it is to check needless expenditure of nerve force and other tissue exhaustion, to stay excessive chemical action and facilitate repair of damaged organs. The devitalizing influence of loss of sleep, with its attendant mental and physical fag, predisposes the healthy to disease, and the sick to despair. Our efforts to obtain relaxation are enhanced by cheerful surroundings and complete change in the mode of living. The addition of soothing strains of music and light stories has a place in the restoration of nerve force, muscular fatigue and cell waste.

Heretofore, our greatest concern in the preparation of the toxic patient has been for the restoration of heart function, omitting attention to skeletal muscular weakness, and altered liver, kidney, skin and gastrointestinal secretions.

The frequency with which altered secretions, as evidenced by jaundice, acidosis, constipation and scanty urine, complicate the history of such patients should serve to withdraw the attention of the clinician from the classic flamboyant syndrome of nervousness, tachycardia and exophthalmos. They are but so many notes in the physical disaster which involves the patient: local expressions of a central complaint demanding attention and correction for the safety of the patient.

Rest and relaxation in the horizontal position lessen the amount of force requisite to supply the tissues with blood, and this, in turn, decreases the frequency of the pulse rate and prolongs the interval of heart rest.

When drugs are required, opium, properly administered, becomes our sheet anchor in the production of rest for this organ.

Continued effort on the part of the attendants to solve the mental make-up of the patient, and the application of knowledge thus gained, will usually prove highly beneficial in allaying the patient's fears relative to his recovery, and permit him to glide into a mental poise that will induce coordinate action on the part of the patient to the suggestions of his attendants. In some of the highly toxic patients, this becomes a long and tiresome task; but diligence, perseverence and gentleness are usually successful.

Diet should be selected with special reference to overcoming the rapid oxidation which marks all toxic processes; the food should be light, agreeable and easily digestible, and the carbohydrates should predominate in the selections.

An elevation of temperature is frequently present in such patients; this aggravates the nervousness, and induces sleeplessness. Marked improvement follows the use of cold sponging, the application of the ice cap and the free use of alkaline drafts. In patients with myocardial degeneration, scanty urine, cloudy sclerae, dry skin and sluggish returning circulation, the full physiologic influence of digitalis renders signal service.

The drug must be employed with understanding, and the patient should be under the constant surveillance of one familiar with its practical application.

Digitalis, when indicated and properly administered, has a beneficial influence, not alone on the musculature of the heart but likewise on the skin, liver and kidney.

Constipation and disordered digestion are present in consequence of damaged musculature of the gastrointestinal tract, and altered stomach, biliary and pancreatic secretions. Constipation should be overcome, preferably by diet, fruits, cereals and alkalis.

Small doses of sodium salicylate will best serve our purpose as an hepatic stimulant. For many years I have taught my students to be alert for three common diseases: the red, the white and the black plague—that is to say, syphilis, tuberculosis and malignancy. Their frequency, clinically, occurs in the order in which I have written them. Such complications always have an important bearing on the complaint for which the patient consults a physician. Latterly, focal infections have been added to this list, and one finds an ever increasing demand for recognition and appropriate treatment of any member of this group, when present, in the management of patients with toxic goiter.

In syphilis complicated by toxic goiter, mercury is more efficient than the iodids, the latter in some instances increasing the severity of the symptoms of

toxicity to an alarming degree. Inunctions of the skin covering the thyroid with ointment of red mercuric oxid, from 4 to 30 gm., followed by direct exposure to the sun's rays, have a highly beneficial effect in reducing the activity of the gland.

Two or three per cent. of the thyroids removed will show, on examination, evidence of tuberculous infection. The postoperative management of such patients becomes a subject for protracted supervision by the family physician. Malignancy of the thyroid is well-nigh hopeless. Hertzler has not seen a single recovery from this malady.

In the successful management of patients with toxic goiter, one must visualize the far reaching influence of the toxic process. There is not a vestige of tissue or a cell in the entire body but may be damaged and functionally crippled by the influence of thyrotoxin. The outcome in a given patient will depend largely on the clinician's ability to determine how hard the patient has been hit, and the success with which toxic symptoms are combated prior to operation. Removal of focal infections, and the resultant changes which quickly follow, are common observations; but the excitation following such procedures almost invariably has a bad effect on the patient with toxic goiter.

According to one of the most acceptable theories of hyperthyroidism, one of the functions of thyroid secretion is to combat infection; with the acute manifestations of infection under control, the gland, in some instances, continues in the overproduction of thyroid secretion, establishing a vicious circle wherein that which was a prophylactic measure may become a menace to the life of the patient.

Experience has taught us to deal with the goiter first, leaving removal of focal infections for the future.

A definite knowledge of the structures of the neck, gentleness, celerity and thorough hemostasis are essential in operating for the removal of the thyroid. Perhaps in no other region of the body is shock following operation so out of proportion to the amount of trauma as in the neck.

While operating, one should remember the neck as a privileged region. Notwithstanding the dictum of the mordacious old historian Carlyle that men everywhere are the born enemies of lies, I am mistrustful of the average report on goiter cure percentages. Figures will not lie, but they may become very enthusiastic when not zealously guarded.

This iconoclastic spirit is born of a generous personal experience in the operative treatment of goiter and in checking the postoperative history of many of the patients over a period of nearly two decades. The high percentage of cures becomes greatly modified in the course of time.

Hyperthyroidism or myxedema may follow operation in consequence of the removal, respectively, of too little or too much of the gland; but the bone hard fact remains that a number of cured patients do not remain cured, regardless of the alibi the surgeon may claim. End-results of many a well timed and successful thyroidectomy have been defeated in consequence of negligence pertaining to the postoperative care of the patient.

It would require an experienced pen, directed by a trained mind and a rare vision indeed, to predict what the future will develop for the relief of the goitrous patient. From the present status of the subject may we not conclude that a disease so freakish in symptoms, so disastrous in tendency, may not long be safely entrusted to other than radical treatment by removal of the most prominent factors in the production of the goitrous syndrome, which, unchecked, will end in morbidity or death of the pateint?

Furthermore, although I am not convinced that operation is the ideal treatment in the management of goitrous patients, it is the best treatment that has been employed.

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ORIENTAL SORE (CUTANEOUS LEISHMANIASIS) IN THE UNITED STATES *

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The importance of a wider knowledge of oriental sore, or cutaneous leishmaniasis, on the part of American physicians and public health officials is indicated by the fact that in the last two years at least eight cases of this infection have been reported in this country and Canada.[1] While all of the patients were newly arrived foreigners, it is quite possible, as Faber and Schussler [2] have recently pointed out, that, with the repeated importation of cases among immigrants, particularly from southern Europe and the Near East, the disease may soon become established in the United States. From our knowledge of the transmission of the infection, there would appear to be no reason why it should not become implanted here.

The usual mode of infection has not been definitely established, but clinical and experimental observations have indicated certain possibilities. First of all, it has been proved, through the autoinoculation experiments of Wenyon and Marzinowsky, that direct infection may take place through the abraded skin. Secondly, the selective localization lesions on the exposed parts—face, hands, arms and feet—indicate transmission by a biting insect. Several species of insects, including the house fly, sand fly and mosquito, have been incriminated. Regarding such transmission, two possibilities are considered: (1) mechanical transfer of the virus by one of the various biting insects; (2) the existence of a specific, intermediate insect host, in which, as in malaria, the organism passes through a developmental cycle. The wide geographic distribution of the disease is in harmony with the first conception; whereas, the strikingly high infection rate in certain districts may be considered as favoring the latter view. It is conceivable, as Manson and others have suggested, that both methods of transmission obtain.

This brief statement regarding the manner of spread is sufficient to make clear the danger referred to in the beginning. Early recognition of the lesion, therefore, is particularly important, if the establishment of the disease in the United States is to be prevented. It is probable that cases frequently pass the immigration authorities unrecognized, as apparently happened

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* From the Department of Pathology and Bacteriology, Yale University School of Medicine.

1. Spencer, R. D.: A Case of Oriental Sore (of Italian Origin) Encountered in the United States, J. A. M. A. **76**: 1494 (May 28) 1921. Smith, D. K.: Oriental Sore: Report of Four Cases, Arch. Dermat. & Syph. **5**: 69 (Jan.) 1922. Fox, Howard: Two Cases of Oriental Sore (Cutaneous Leishmaniasis), New York M. J. **116**: 365 (Oct. 4) 1922. Faber, H. K., and Schussler, Hermann: Leishmaniasis in the United States, J. A. M. A. **80**: 93 (Jan. 13) 1923.

2. Faber, H. K., and Schussler, Hermann: Footnote 1 (fourth reference).

with six of the eight recently reported cases. Furthermore, owing to the occasionally long incubation period, the lesion may not develop until some time after the infected person has entered the country. One of two cases that were recently referred to me for diagnosis illustrates very well this possibility. The case brings out certain other characteristics of the disease which make it worthy of detailed report.

REPORT OF CASES

CASE 1.—An Armenian boy, aged 17 years, left his home in Aintab, southern Asia Minor, June 1, 1920, en route to America by way of Aleppo, Beirut and Marseilles. He stopped two weeks in Killis, near Aleppo, a district in which "Aleppo button"—a local name for oriental sore—is very common. He remembers that while there he went about without shoes and stockings, and flies and mosquitoes were prevalent. After leaving Killis, he wore shoes and stockings regularly. He spent two months in Beirut, leaving there early in August, 1920. He was six weeks in Marseilles, and arrived in New York about Nov. 1, 1920. He went immediately to New Haven, where he has lived ever since.

About Feb. 1, 1921, he first noticed a pimple on his left ankle, about the line of his shoe top. This was three months after his arrival in the United States, six months after leaving Syria, and nearly eight months after leaving Killis, where he had commenced wearing shoes regularly. The pimple gradually increased in size, and after some weeks became ulcerated. There was some local tenderness, with considerable discomfort from the rubbing of the shoe. About June 1, 1921, several months after the appearance of the lesion, he consulted a physician, who excised it. The result was a larger and a very angry looking sore. The rapid recurrence led the physician to make a diagnosis of sarcoma, and the patient was referred to a surgeon for radical operation. The patient demurred and went to an Armenian physician, who, suspecting that the lesion was an "Aleppo button" and not a neoplasm, referred the patient to me for examination of the tissue.

Fig. 1 (Case 1).—Oriental sore on ankle. The characteristic circular form and the prominent indurated margin may be noted.

The size and general appearance of the ulcer at this time, July 1, 1921, are shown very well in Figure 1. After removal of the superficial exudate, smears were made from the granulations, and a piece of the indurated margin of the ulcer was excised. Both smears and sections showed typical Leishman-Donovan bodies. The entire margin of the ulcer was then excised to provide tissue for further histologic study and for animal inoculation. Three roentgen-ray treatments were given at weekly intervals, and after preparatory irrigation with surgical solution of chlorinated soda (Dakin's solution), autoplastic Riverdin grafts were applied.[3] Healing was complete after about four weeks, and there has been no subsequent trouble. The Wassermann reaction was negative; the leukocyte count, 8,800; differential count: polymorphonuclears, 59; large mononuclears, 15; small mononuclears, 26.

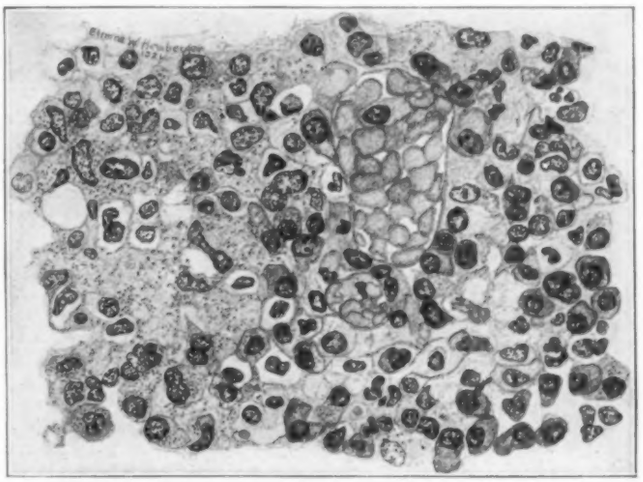

Fig. 2 (Case 1).—A section through the margin of the lesion showing a mononuclear cellular reaction, with numerous organisms (leishmania) in the cytoplasm of the large cells of the endothelial type. Lymphocytes and plasma cells do not contain organisms.

The case presents several interesting features. In the first place, the history indicates that the infection was acquired before the patient left Turkey; that is, about eight months before the appearance of the lesion. It is possible that inoculation may have occurred in Beirut, Syria, the port of embarkation, where the disease is endemic. But this would still make the incubation period at least six months. The fact that after leaving Turkey the patient had worn shoes and stockings regularly is a strong point in favor of the longer period of infection. While the period of incubation in this case is considerably longer than is generally recognized, from a week to two months being the figures usually given, it is probable that similar instances of latency are not rare. It may be recalled that in Wenyon's self-inoculation experiment the lesion did not appear until six and a half months after infection. Manson reports a case in which the interval was five months, and refers to another with an incubation period of fifteen months.

A second interesting feature of this case was the rapid recurrence, after excision, which led to a diagnosis of malignancy. This error might have been avoided, of course, if the tissue first removed had been examined histologically.

The study of the case brings up still another point which we believe should be emphasized, namely, the possible advantage of biopsy over smears for the demonstration of the specific organisms. In spite of our efforts to obtain good deep smears from the granulations, considerable search was required to

3. The skin grafting was done in the New Haven Hospital by Dr. Beverly Douglas; the roentgen-ray treatments were given by Dr. C. R. Scott, and the patient was cared for in the New Haven Dispensary by Dr. Isao Hirata. I am indebted to these physicians for the use of their notes. The case was referred to me by Dr. A. S. Apelian.

demonstrate the organism, whereas every well stained section showed enormous numbers of parasites. The large mononuclear cells of the endothelial type, the chief element in the inflammatory reaction, were crowded with organisms (Fig. 2). Under low magnification, the cytoplasm of these cells presented a uniform granular appearance, the granules being the double nuclei of the organisms (Fig. 3). There is further advantage in excision in that a small piece of tissue embedded in paraffin will yield from 25 to 200 sections, thus permitting use of various stains or other modification in technic on identical preparations. On the other hand, the morphology of the parasite is not so easily studied in sections, and by the untrained observer identification may not be easy. A combination of methods is, therefore, desirable in such cases. For sections, a prolonged Giemsa stain (from twelve to twenty-four hours), with careful differentiation, gives excellent results. Zenker fixation is a necessary prerequisite. We were able, however, to see the organisms clearly in hematoxylin-stained frozen sections, after formaldehyd fixation. The double nuclear bodies in the organism and the intracellular position of the parasites in sections constitute safe diagnostic criteria.

CASE 2.—An Armenian girl, aged 15 years, in 1915, was deported, with other Armenians, from her home in Harpoot, Turkey, to Aleppo, Syria, where she remained until Jan. 1, 1920. From Aleppo, she came to America by way of Egypt, arriving in the United States in the latter part of the same year. She noticed several pimples on the right arm and the left wrist before leaving Aleppo. These developed into typical "Aleppo buttons," and were treated with red mercuric oxid. After more than a year, the lesions began to heal.

When the patient was first seen by me, healing was progressing satisfactorily (Fig. 4). No organisms could be demonstrated in the scanty secretion. Biopsy did not seem justified, owing to the advanced state of healing, and to the fact that there was no doubt as to the diagnosis.

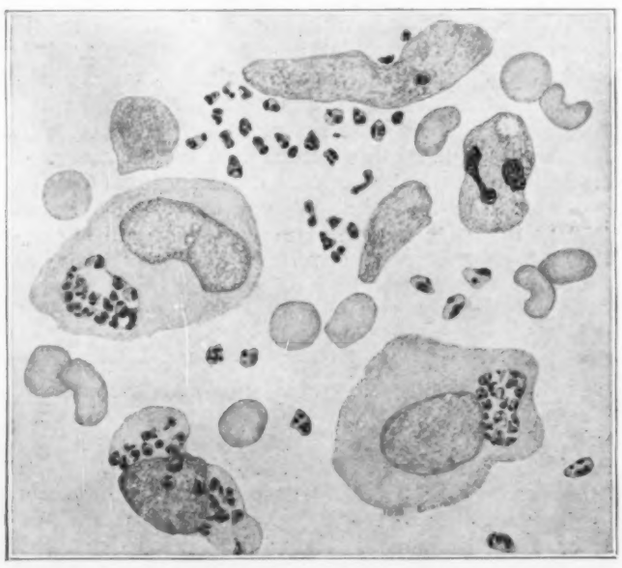

Fig. 3.—Leishmania tropica in smear preparations. Characteristic double nuclei may be noted.

This case presents no unusual features and is cited simply as another example of leishmania infection which would ordinarily pass unnoticed.

COURSE AND TREATMENT

As is well known, the disease is self-limited, and, even without treatment, healing generally takes place from six months to a year and a half after the appearance of the lesion. Occasionally, severe secondary infection or some other unfavorable condition may retard the healing process. Recurrence and reinfection are rare, one attack conferring a permanent immunity, a fact that is said to have led to the custom among the Bagdad Jews of inoculating their children on the legs,

Fig. 4 (Case 2).—Healing oriental sores in region of elbow.

in order that disfiguring lesions on the face, resulting from infection acquired in the usual way, might be prevented.

In spite of the self-limited course, active treatment of the lesions is justified to (1) shorten the course; (2) prevent autoinoculation; (3) lessen the tendency to disfiguring scar formation, and (4) prevent the spread of the infection to other individuals.

Of the various methods of treatment proposed, only three or four warrant mention. A number of reports during the last few years indicate that antimony, in the form of antimony and potassium tartrate (tartar emetic), administered intravenously, is practically a specific. Roentgen-ray therapy, advocated by several observers, has an advantage over antimony in that hospitalization is not necessary. When the lesions are superficial, freezing by carbon dioxid, strongly recommended by Adams of Beirut, seems to give very satisfactory results. In the case of very early lesions, such as are frequently called to the attention of physicians practicing in areas where the disease is endemic, it is claimed that prompt excision and cauterization is effective.

SUMMARY

1. The two cases of oriental sore in the United States here reported make a total of ten cases recorded in the last two years.

2. There is a possibility of a long incubation period. In one of the reported cases, the lesion did not appear until three months after the patient's arrival in the United States, and probably eight months after infection.

3. Biopsy is to be advocated in suspected cases, the specific protozoa (*Leishmania tropica*) being more readily demonstrable in properly stained sections than in smears.

SUBCUTANEOUS IMPLANTATION OF THE HUMAN OVUM*

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Rare cases of extra-uterine pregnancies have been described in which the fetal mass is found lodged in a hernial sac, projecting as a surface swelling in the inguinal region.[1] A few cases of perforation of old tubal pregnancies, in which the remnants of the fetus escaped into the urinary bladder, have been encountered.[2] But, as far as I can learn, no case has ever before been reported in which the human ovum became implanted and underwent development entirely outside the abdominal cavity, as happened in the instance about to be described. As a curiosity, the case appears to be unique; but over and above that, what really merits our attention is the astonishing fact that the human chorion is capable of developing to the size of a hen's egg in such an environment as is furnished by the superficial fascia of the abdomen.

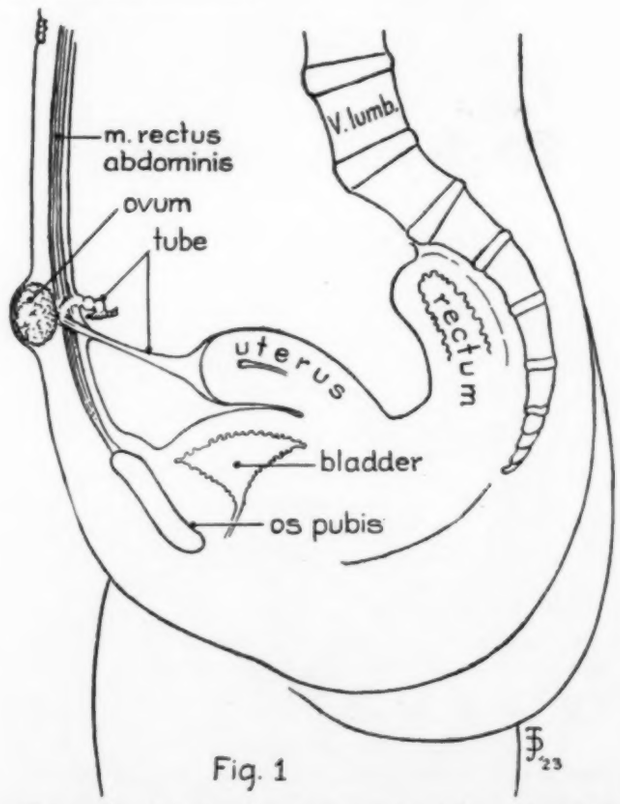

Fig. 1.—Seat of implantation of ovum, and probable relations of the deeper parts.

The patient, aged 25, who had been married four years, with no children and one abortion, when first seen by Dr. George Lenz of Gloversville, N. Y., exhibited a mass the size of a cherry in the lower abdominal region at the upper end of a scar from a previous operation. A provisional diagnosis of wound-hernia was made. When seen two weeks later, the swelling had doubled in size, and on account of its rapid growth an exploratory examination was decided on. This was performed by Dr. Lenz four weeks after the patient had first come to him, and by that time the enlargement had reached the size of a hen's egg. Operation disclosed, just beneath the skin, embedded in the superficial fascia, a relatively thin-walled and partially transparent cyst, which on removal proved to be an intact chorionic sac, and on being opened was found to contain a well-formed embryo. Naturally, this was a most unexpected type of tumor. The operative area was thereupon carefully examined, but no

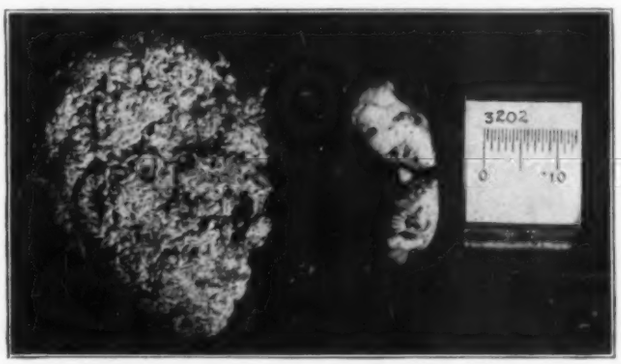

Fig. 2.—At left, collapsed chorionic sac, covered with a rich growth of normal appearing villi. Near the millimeter scale is the embryo, broken in the neck region, with the heart exposed and projecting upward. Natural size.

opening through the deep fascia or connection with the abdomen could be found. Nor was there any enveloping capsule or any structure other than is normally present in the abdominal fascia, although there seemed to be some enlargement of the blood vessels leading to the area of implantation.

On searching for an explanation as to how the ovum was able to reach this site, it turned out that two years previously another surgeon had performed a ventral fixation of the uterus, adopting the procedure in which the round ligaments are pulled through the rectus muscles. As it is possible to mistake the fallopian tube for the round ligament, it is to be supposed that either this mistake was made or that the tube was drawn through the rectus muscle along with the round ligament. In either event the topography of the tube would be somewhat as is shown in Figure 1. In the course of two years the uterine portion of the tube would be stretched out, although still permitting the passage of spermatozoa. The ovum, entering the fimbriated end, would thus be fertilized. It is to be supposed that the fertilized ovum in this case was arrested at the tubal kink and, eroding through the mucosa of the tube wall, continued its development in the loose tissues superficial to the rectus muscle.

Dr. Lenz, recognizing the great embryologic importance of the specimen, generously placed it at the disposal of this laboratory. It can be readily understood that the detailed study of the specimen was approached with great eagerness, for here is an experiment in which it is possible to determine the histologic reaction of the developing ovum under the circumstances of a very simple type of environment. I may say at once that the chorion and its contained embryo appear to have grown, up to the time of their removal, about as well as they would have done had the implantation occurred in the uterine mucosa. In general form and microscopic structure they cannot be distinguished from normally implanted ova of the same stage of development. The tissues of the embryo, however, show beginning degenerative changes, indicating that it had reached its maximum development and that the heart had stopped beating before the time of operation. On its arrival at the laboratory, the embryo had been broken apart and mechanically injured in the region of the neck and upper thoracic wall, as shown in Figure 2. With the two parts placed in position it is 22 mm. long. The relative development of the hands, feet, ears, eyes and mouth region is

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* From the Carnegie Embryological Laboratory, Johns Hopkins Medical School.

1. Jordan: Tubargravidität in einer Leistenhernie, München. med. Wchnschr. **44**: 7, 1897.

2. Haggard, W. D.: Removal by Vaginal Cystotomy of Skeleton of Ectopic Fetus Ulcerating into Bladder, Am. J. Obst. **50**: 690, 1904.

normal for the length of the embryo, and corresponds to about the end of the eighth week. The external genitalia are developed in proportion to the other parts of the body and are female in type, the urogenital opening extending well in front of the coronary sulcus. Whereas the embryo shows a development of eight weeks, the clinical record obtained from the patient at the hospital gives a menstrual age of ten weeks. This discrepancy of two weeks is what we would expect with retardation and arrest in development, as seems to have occurred ultimately in the case of this embryo.

The chorionic sac, as can be seen in Figure 2, is everywhere covered with a thick growth of normal appearing villi. There is no trace of a decidual membrane. When the villi are examined under a lens or binocular microscope there are numerous Langhans' or villous nodules present, perhaps more than are usually present in chorions of this size. Two of these can be seen in Figure 3 as black masses and their frequency can be judged, as the section is 15 microns thick. When sections of the chorion are studied under higher magnification, the villi are found to be well vascularized and the stroma appears to be normal, aside from the fact that some of the stroma cells stand out conspicuously as Hofbauer cells. The ectoderm covering the villi shows a marked proliferation of the syncytial layer, but this is commonly seen in normal chorions of this size. The proliferation of the Langhans layer in the form of villous nodules is shown in Figure 4, and it illustrates the striking resemblance these cells bear to decidua. At its periphery the nodule is partially covered in by irregular masses of syncytial tissue. The centers of most of the nodules show areas of marked degeneration, consisting of a diffusely staining mass peppered with nuclear fragments of cells, the outlines of which are mostly lost. Toward the

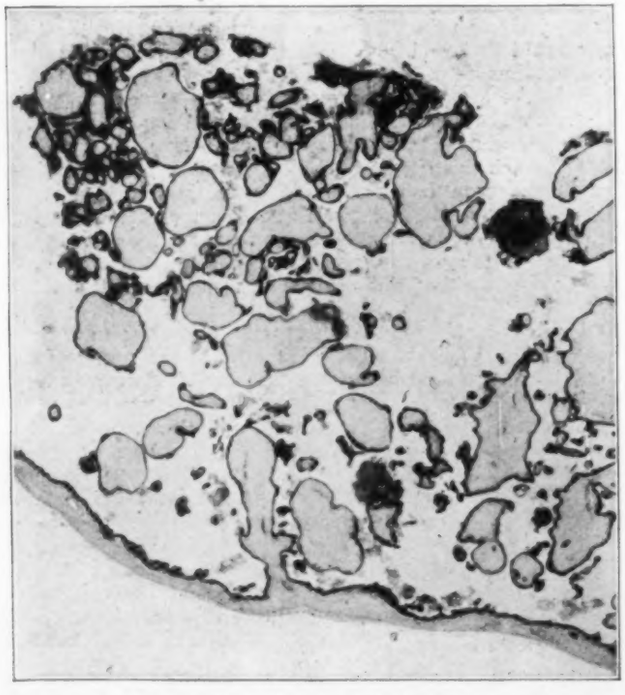

Fig. 3.—Section of chorion, showing chorionic membrane with a villus arising from it. At the periphery there is a thick cluster of smaller villi. Owing to the exuberant growth of their syncytial layer, they tend to adhere and form a surface crust. Two villous nodules can be seen, one of which is shown under greater magnification in Figure 4. Section 15 microns thick, enlarged 20 diameters.

surface of the chorion the villi give off many small branches, and their syncytial layer tends to agglutinate them into crust-like, adherent areas, which are the nearest approach to a decidual capsule that the specimen presents. Over some areas there is a thin coating of old bloodclot, with many pigment granules. Some of these granules had been ingested by the syncytial cells, and can be seen in them as large granular aggregates. Some cells are so laden with pigment that their nuclei are obscured. From the age of the clot it is evident that small hemorrhages occurred around the ovum preceding the operation, though this phenomenon was much less marked than is usual in tubal cases.

The chorionic sac was certainly growing up to the time of the operation, and its histologic condition is compatible with still further growth, although the prominence of the so-called Hofbauer cells is a signal of an approaching arrest in development. It thus

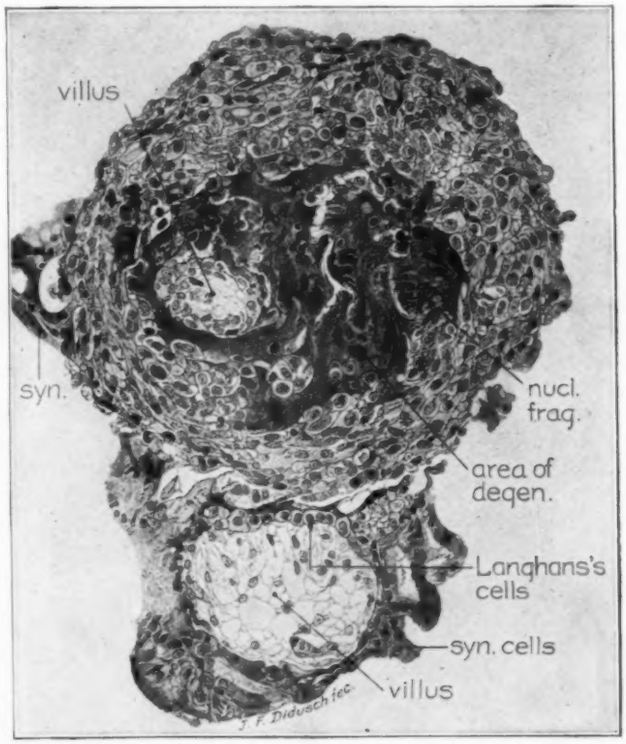

Fig. 4.—A typical villous nodule surrounding a small villus and adherent to another. It is made up of cells which resemble decidua but which are derived from the Langhans cells of the villi or chorionic membrane. In reality, it is a minute, self-limiting epithelial tumor, the center of which soon breaks down and is seen as a diffusely staining mass with here and there fragments of nuclei. The surface of the nodules is partially covered in by islands or streamers of syncytial cells. Enlarged 165 diameters.

follows that, under these circumstances, the growth of the sac tends to continue longer than that of the embryo. This conforms to the experience we have had in this laboratory with abortion material in general—the chorion is proportionately farther developed than the embryo rudiment. It is to be remembered that the fascia in this region is not so profusely vascularized as are the tissues surrounding the tube and uterus, and this might have played a part in the arrest in development. We can only speculate on what would have happened if the mass had not been removed. It is not likely that it would have grown much larger. Reasoning from tubal specimens, we might expect further hemorrhages, although not serious ones, and in the end the whole structure might have been slowly absorbed. On the other hand, there is the remote possibility of the villi giving origin to a malignant chorio-epithelioma. The case is a very suggestive one to the experimental embryologist.

Top Minnows.—It is said that 750,000 top minnows were employed in the recent successful campaign in Peru against yellow fever.

OSTEOMYELITIS OF THE ILIUM IN CHILDREN

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While infection of the iliac bone is not common, it is far from rare. When it occurs in children, it is a particularly serious condition, because the diagnosis at first may be difficult. Since immediate prognosis, prevention of complications and shortening of convalescence depend on early treatment, early diagnosis is essential.

This condition has been looked on as infrequent from such published reports as that of Monsaigeon,[1] who was able to compile only fourteen cases during a period of thirteen years in one of the large clinics in Paris, and of Simmons [2] who, in his report of ninety-seven cases of general osteomyelitis in the Massachusetts General Hospital, listed only two cases of ilium infection. In addition, at the German Surgical Congress,[3] Lücke reported twenty-four cases of osteomyelitis, including one of the ilium; Volkman, twenty-nine, including none of the ilium; Schede, twenty-four, including two; Kocher, thirty, including one; and Heidenhain, forty-six, including one.

On the other hand, Geist [4] recently reported from Minneapolis three cases of osteomyelitis of the ilium seen by him within a period of three years, and I have had two such cases within a period of three months.

When infection of the short and flat bones alone is considered, the ilium is one of the bones most frequently involved. Fröhner,[3] in analyzing fifty-one such cases out of a total of 545, found involvement of the ilium to be second in frequency. In considering infections of the bones of the pelvic girdle alone, he found it to be the most frequent, as in his series he had ten cases of ilium infection, four of the pubis and none of the ischium.

REPORT OF CASES

CASE 1.—*History.*—P. S., aged 9, referred by Dr. A. S. Troupin, seen, July 19, 1922, for the last six years had been under treatment at various institutions, first for osteomyelitis of the radius and sternum, and then for the infection of the right ilium. The parents were recent immigrants, and for long periods at a time kept the boy away from clinics for the trial of home remedies. From the onset, there had been a draining sinus. For the previous two weeks, he had been at home, having been taken out of an institution where he had been kept for one and a half years. Two days previously, a swelling appeared at the right hip, with fever and prostration.

Examination.—The boy was fairly well developed but somewhat undernourished and of sallow complexion. The temperature was 102.4 F., the pulse, 120. The abdomen was markedly distended, but soft and not tender, and contained no fluid. The liver was markedly enlarged and firm, the lower edge being at the pelvic brim. The sternum and left forearm showed old scars, the result of the healed bone infections at these sites. Over the right ilium was a fluctuant abscess, the size of an orange, and below it a sinus discharging considerable watery pus. Motion at both hips was normal, and the spine was normal. The right leg and hip were drawn up in extreme flexion.

Operation.—Under ether anesthesia, the abscess was incised. A cupful of pus was obtained. The wound was explored, and a hole was found in the ilium near the crest, large enough to admit a thumb. The abscess was drained. The convalescence thus far has been uneventful. The operation wound has contracted down to a small sinus, and at the present time, six months later, is still draining pus.

Outcome.—The postoperative treatment has been quite unsatisfactory, as the parents refuse to send the boy to an institution, and the home environment is unfavorable.

CASE 2.—*History.*—R. L., aged 13, referred by Dr. G. A. Haines, seen, Oct. 24, 1922, had fallen, striking the right hip, one week before while playing football. He walked home, but owing to the intense pain had to go to bed. The following morning, because of the continuation of the pain in the right hip, together with fever and voiding of bloody urine, the family physician was called. He found the temperature 104 F., and the right hip so sensitive that the slightest motion was exceedingly painful. The urine examination showed only red blood cells. After six days of observation with conservative treatment, and with no relief, I was requested to see him in consultation.

Examination.—The boy was well developed and well nourished. The face was flushed and hot to the touch. The temperature was 101.8 F. There was full range of motion in both hips, but the right ilium was exquisitely tender. When, after palpation of the sacrum and sacro-iliac joint, which were not sensitive, this ilium was touched, the patient reacted with immediate outcry of pain. The right hip was so sensitive that the patient for the last six days had insisted on lying on the left side, keeping both legs and thighs fully flexed. There was no swelling and no redness or local heat. An immediate operation was advised, but was deferred by the parents for two days. The night before operation, which was nine days after the injury, a roentgenogram was taken, but showed no pathologic condition.

Fig. 1 (Case 1).—Appearance of ilium.

Operation.—Under ether anesthesia, a 4 inch (10 cm.) incision was made over the most tender spot of the ilium. Within the last two days a swelling had appeared at this area, so that the focus was well localized. When the fibers of the gluteus maximus muscle were divided, there was an escape of about 4 ounces (120 c. c.) of pus. The ilium was explored and a bare area about the size of a silver dollar was found, in the center of which was a perforation large enough to admit a lead pencil. Ample drainage was established. A culture showed the growth to be pure *Staphylococcus aureus.*

1. Monsaigeon, Maurice: De l'ostéomyélite aiguë de l'os iliaque, Paris theses, 1911-1912.
2. Simmons, C. C.: The Treatment of Osteomyelitis, Surg., Gynec. & Obst. **20**: 129, 1915.
3. Quoted by Monsaigeon (Footnote 1).
4. Geist, Emil: Osteomyelitis of the Pelvic Bones, J. A. M. A. **77**: 1939 (Dec. 17) 1921.

Outcome.—The convalescence was uneventful and rapid, and at present, three months after the operation, the patient is back in school and his general condition is excellent. There is still a scanty discharge from the sinus, which is appreciably diminishing.

COMMENT

These cases, the two most recently seen by me, are illustrative of the sequence of a neglected case, on the one hand, and of an early recognized case, on the other hand. The first patient, owing largely to the ignorance of the parents, has developed an amyloid liver because of the long continued suppuration. His condition is such that, even if the local condition quickly cleared up, he has this permanent damage to his liver. His infection of the ilium is of the metastatic type, following infection of the radius and sternum. Previous infections have conferred on him a certain immunity, for, as is shown in the roentgen ray, the process is localized; whereas, usually the disease spreads by extension.

The second case shows the result of early operation. The recovery was rapid and the amount of involvement

Fig. 2 (Case 2).—Appearance of ilium three months after operation.

small. This infection without question was due directly to trauma, and since the boy had no previous infection to give him any immunity, it is fair to assume that had the operation not been promptly performed, the destruction might have kept on.

GENERAL CONSIDERATIONS

The causes of osteomyelitis in the ilium are the same as in osteomyelitis of other bones. The systemic manifestations are also the same, but the local symptoms are likely to be deceptive in that they are usually referred to the hip joint, and not the ilium. The diagnosis is made on the localized tenderness in the acute cases, and on the swelling in the chronic case; and there may be spasm of muscles of that buttock and also below it. There are pain and spasm in that hip on attempted motion, but with care motion can be obtained. The roentgen ray is a decided aid in old cases; in early cases, it often shows nothing. Stereoscopic plates [5] may help, but once the disease process is localized, the roentgen ray is an aid in watching the progress of the disease.

The course of the disease in the ilium is similar to that in other flat bones. It is evident that, in an infection of a flat bone with a thin cortex, there will be early perforation; if the disease progresses, there will be extension of this perforating destruction or a new perforation will appear nearby. By roentgen ray, this is at first evidenced by a punched out appearance or rarefaction, which may gradually increase in size. In advanced cases in which there are several perforations, the bone may take on a mottled or "moth-eaten" appearance.

Complications are frequent. I have had under my care, in all, four cases of this condition. Of these, one had such extensive destruction of the ilium that the head of the femur slipped out of the acetabulum. Another had subsequent metastatic infection in three other bones. A third, because of long continued suppuration, developed amyloid liver. Other complications that have been recorded are arthritis of the hip, erosion of the femoral artery, which required ligation, phlebitis of the iliac vein, and the development of pus pockets.

The treatment is based on general surgical principles, and varies with the condition found. When the bone lesion is adequately drained through a perforation in the cortex, incision of the abscess may be sufficient. If perforation has not taken place, or if bone drainage is inadequate, trephining is the operation of choice.[6] If the process is diffuse, a partial or total resection [7] of the dead bone should be done, depending on the amount of involvement.

CONCLUSIONS

1. Osteomyelitis of the ilium is more common than is generally supposed, and should always be borne in mind in a case of painful hip that permits motion.
2. The local symptoms are often referred to the hip joint, and not to the ilium.
3. The important factor in diagnosis is tenderness over the ilium, without restriction of motion at the hip joint. The roentgen ray is at first of no help, but is later of decided aid.
4. Owing to the structure of the ilium, there is early perforation, and if the disease extends there are further perforations.
5. While the prognosis in this condition is grave because of proximity to the hip joint and the peritoneal cavity, early recognition and treatment renders it more favorable. Serious complications may arise at any stage of the disease.
6. The treatment is early operation with adequate drainage, and removal of dead bone, even if it means resecting the whole ilium.

483 Beacon Street.

5. LeWald, L. T.: Perforative Osteomyelitis of the Iliac Bone, American Atlas of Stereoroentgenology, Troy, N. Y. **2**: 60, 1917.

6. Skillern, P. G.: Acute Pyogenic Osteomyelitis of the Ilium with Iliac Fossa Abscess, Internat. Clin. **4**: 1819, 1917.

7. Bergman: Resection of the Ilium for Acute Osteomyelitis, Arch. f. klin. Chir. **504**, 1906.

The Physician in Court.—The physician in court, whether as a party or as a witness, has impressed me as a man who is not thoroughly enjoying himself—he appears irritated by the interruption of his professional labors, impatient with the lay ignorance of his science evidenced by court, counsel or jury, or disgusted with the possibility of grave injustice that may be visited upon him. These feelings may be mixed with a strong self-confidence springing from a realization of his professional skill, that may cause him to assume toward the court an attitude of condescension or superiority.—G. W. Whiteside, *New York State J. M.* **23**:73 (Feb.) 1923.

KERATODERMIA BLENNORRHAGICA

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CHICAGO

Keratodermia blennorrhagica is a very rare complication of gonorrhea, and because of this fact one would naturally expect the literature on this subject to be decidedly limited. This is especially true of the literature of this country. According to Simpson and Beeson,[1] the first American case was reported by Simpson[2] in 1912, and, in 1917, Simpson and Beeson jointly reported two cases. In addition to the cases just mentioned, Roark,[3] Haase,[4] Gager[5] and McDowell[6] in this country have reported cases—seven in all.

Fig. 1.—Extensive involvement of soles of feet and little toe of left foot.

In the foreign literature, cases have recently been reported by E. Graham Little,[7] Little and Hayne,[8] Montpellier,[9] Gougerot and Cara,[10] Brown and Davidson,[11] Brown and Hargreaves,[12] Lundie,[13] Lévy-Franckel,[14] Dyke,[15] Isaac,[16] Adamson,[17] Allport,[18] Doble[19] and Lindeman.[20]

1. Simpson, F. E., and Beeson, B. B.: Kératodermie Blennorrhagique, J. A. M. A. **68**: 1169 (Aug. 21) 1917.
2. Simpson, F. E.: Kératodermie Blennorrhagique, J. A. M. A. **59**: 607 (Aug. 24) 1912.
3. Roark, B. H.: Blennorrhagic Keratosis, J. A. M. A. **59**: 2039 (Dec. 7) 1912.
4. Haase, M.: J. Cutan. Dis. **34**: 817 (Dec.) 1916.
5. Gager, E. C.: Keratodermia Blennorrhagica, J. A. M. A. **78**: 941 (April 1) 1922.
6. McDowell, J. E.: New York M. J. **115**: 518 (May 3) 1922.
7. Little, E. G.: Practitioner **97**: 531 (Dec.) 1916; Proc. Roy. Soc. Med., Sec. Dermat. **14**: 90, 1920-1921.
8. Little and Hayne: Tr. Roy. Soc. Med., Sec. Dermat., June, 1916.
9. Montpellier, J.: Ann. d. mal. vén. **12**: 309, 1917.
10. Gougerot and Cara: Ann. d. mal. vén. **12**: 108, 1917.
11. Brown, W. H., and Davidson, A. M.: Brit. M. J. **2**: 453 (Oct.) 1917; J. Cutan. Dis. **36**: 225 (April) 1918.
12. Brown, W. H., and Hargreaves, H.: Brit. J. Dermat. **29**: 107 (April-June) 1917.
13. Lundie, Crawford: Brit. J. Surg. **5**: 389 (Jan.) 1918.
14. Lévy-Franckel, A.: Ann. d. mal. vén. **13**: 386, 1918.
15. Dyke, S. C.: Lancet **2**: 328 (Aug. 23) 1919.
16. Isaac, C. L.: Brit. J. Dermat. **32**: 195 (June) 1920.
17. Adamson, H. G.: Brit. J. Dermat. **32**: 183 (June) 1920.
18. Allport, A.: Proc. Roy. Soc. Med., Sec. Dermat. **14**: 91, 1920-1921.
19. Doble, F. C.: Proc. Roy. Soc. Med., Sec. Dermat. **14**: 91, 1920-1921.
20. Lindeman, Grant: Med. J. Australia **9**: 126 (Feb. 4) 1922.

Because of the rare occurrence of this condition, and also because of the scarcity of case reports, it seems desirable to report a case that recently came under my observation:

History.—F. B., a man, aged 22, referred by Dr. W. W. Ross of La Porte, Ind., had had measles, mumps and chickenpox in childhood, and smallpox two years before I saw him. He contracted gonorrhea two and a half years before, for which he had since been under treatment. The patient entered the Alexian Brothers Hospital, May 6, 1922, complaining of pain in the right wrist and finger joints, swelling of the joints, nocturia, skin lesions, and loss of function of both knees. He stated that about eighteen weeks before he had some pain and swelling in the left toes which afterward spread, in the order named, to the joints of the right great toe, right hand, fingers, ankles, knees, elbows, left hip, and at present to the right wrist and right index and middle fingers. Pain and swelling of the right wrist and fingers occurred, May 2, 1922. This was the third exacerbation of the process in the right wrist and fingers, the first occurring three weeks, and recurring two weeks, previously. Nocturia had been present since the onset, two and a half years before. At present the patient voided two or three times during the night. Skin lesions appeared several weeks after the joints became involved, or about fifteen weeks before entrance. At first they were noticed on both heels as small pimples with a hard center. They gradually became worse and were scattered over both legs and hands, but less so on the thighs. There was loss of function of both knees for about seven weeks; immediately after the loss of function there was swelling, with much pain. The patient was confined to bed; there was no exercise of the knees.

Physical Examination.—The patient was very pale and anemic; evidently he had lost much weight as a result of his long illness. The scalp, ears, eyes, nose, nostrils, mouth, throat and tonsils were normal. The muscles of the upper and lower extremities had undergone marked atrophy from disuse, this being particularly noticeable in the lower extremities.

Fig. 2.—Extensive involvement of nail of left great toe.

The right wrist was enlarged, swollen and tender, showing evidence of recent arthritis. The right first phalangeal joint was enlarged, red and swollen, as was the same joint of the middle finger. The right forearm just above the wrist showed a lesion, and another was seen over the left knuckle and one over the first phalanx of the middle finger. Two lesions were seen over the dorsum of the left hand: one over the first phalanx of the middle finger and one over the fourth metacarpal bone; and another lesion was situated over the middle of the right radius on the anterior surface. The skin of the trunk was free.

There was a slight discharge from the external urethral orifice; this was negative as regards gonococci. On the right side, the glans and sulcus were covered with superficial cysts. Along the line of incision of the circumcision and in the coronary sulcus there were small pustules, and a similar condition existed on the scrotum on this side. Evidently the patient had

ankle-joints being second in point of frequency. Wrists and feet are less often attacked. Involvement of the acromioclavicular joint was reported by Isaacs, and the vertebrae were involved in Doble's case. In McDowell's case the joints involved were shoulder, elbow, wrist, hip and ankle. In the case reported in this paper the joints affected were the toes of both feet, the right wrist, the fingers, both ankles, both knees, both elbows and the left hip. From this, it would appear that the arthritis is generally multiple.

Hyperkeratosis.—The extent or distribution of the lesions is variable with a seeming predilection for the feet, particularly the soles. At times the lesions are found on the feet only, plantar or dorsum surface or both. In a case reported by Brown and Davidson, the lesions were limited to the penis; likewise in a case reported by Jeanselme and Blamontier. In Lévy-Franckel's case the lesions were found on the lower limbs and soles of the feet, as well as on the penis. Involvement of the nails was reported by Lindeman, by Dyke, and also in the case reported in this paper.

As examples of extensive distribution may be mentioned the heel, soles, nails, face, shoulders, arms, trunk, scrotum, buttocks and legs (Lindeman); knee, thighs, hip, leg, back and soles of feet (McDowell).

Rarely do lesions of the eye occur, though iritis has been noted in cases reported by Isaac and Lundie.

Muscular atrophy, due to loss of function, may become quite marked, as in the case here reported.

DIAGNOSIS

The diagnosis can be made quite readily from the presence of urethritis, arthritis and hyperkeratosis. This clinical entity has been confused with other skin lesions. Adamson raises the question whether keratodermia blennorrhagica is not a form of psoriasis. His observations have shown that: (1) There are cases of arthropathic psoriasis in which the lesions on the palms and soles strikingly resemble those of gonorrheal hyperkeratosis; (2) in many cases of gonorrheal hyperkeratosis there are eruptions on the limbs or trunk indistinguishable from psoriasis; (3) there are cases in which it is difficult to make a definite diagnosis between arthropathic psoriasis and gonorrheal hyperkeratosis; (4) there is a close similarity between the histopathology of psoriasis and of keratodermia hemorrhagica.

TREATMENT

Since the lesions are metastatic in origin, the treatment should be directed toward cleaning up the focus of infection in the prostate gland and seminal vesicles by massage, irrigations or instillations. Vaccines have been used, the results of their use being variously stated as beneficial or without effect on the skin lesions.

Arsenic in the form of neo-arsphenamin was followed by good results (Doble-Lees).

LIPEMIA RETINALIS*

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AND
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It seems time to draw to the attention of medical men a subject which has been discussed usually by ophthalmologists, and often too only in relatively inaccessible society transactions. We have been able to find only twenty-six cases reported so far.

REPORT OF A TWENTY-SEVENTH CASE

Mrs. R. was 50 years and 9 months old when the onset of diabetes was announced by blurred vision; this, with subsequent urinary incontinence, caused examination and diagnosis a month later. Almost exactly a year afterward, she came under Dr. Joslin's care. The twenty-four-hour urine then contained 85 gm. of sugar, and diacetic acid was +++; the alveolar carbon dioxid was 31 mm.; the blood before breakfast showed creamy plasma, with 5.12 per cent. fat (Bloor) and sugar 0.31 per cent.; the net weight was 30 kg., 46 per cent. below her maximum of 113 pounds (51 kg.) three months before the onset of symptoms. The weight at onset and the height were unknown. The diet is summarized in Table 1 by averages for weekly periods, together with the blood fat at the end of each period; no relation is evident. After discharge from the hospital the patient was not seen again; despite a restricted diet at home, she failed and finally died in diabetic coma four months and nineteen days after recognition of the retinal lipemia.

TABLE 1.—*Summary of Diet in Twenty-Seventh Case by Averages for Weekly Periods, with Blood Fat at End of Each Period (Joslin Case No. 2216)*

Period No. of Days	Average Daily Diet: Carbohydrate, Gm.	Protein, Gm.	Fat, Gm.	Calories	Calories per Kilogram	Weight, Kg., Net	Urine: Sugar, Gm.	Urine: Diacetic Acid	Alveolar Carbon Dioxid Mm. Mercury	Blood Before Breakfast, per Cent.: Sugar, Folin-Wu	Blood Before Breakfast, per Cent.: Fat, Bloor
Adm.	..	..	..	....	....	30.0	85	+++	31	0.31	5.12
8.....	36	27	4	288	8.8	32.8	0	0	38	....	2.54
6.....	13	33	29	445	14.8	30.0	0	0	..	....	2.20
7.....	17	38	47	643	22.3	28.8	10	0	36	....	4.24*
7.....	12	29	41	533	17.3	30.8	0	0	..	....	4.70
12.....	12	29	41	533	17.3	31.8	0	0	38	0.20†	

* Ophthalmoscopic note by two persons: "Arteries and veins have a creamy appearance, evidently due to lipemia."
† At discharge.

REPORT OF A TWENTY-EIGHTH CASE

Mr. D. was 35 years and 11 months of age when the onset of diabetes was indicated by a gradual but distinct increase of his thirst over that of the men with whom he had been playing cards during the preceding fortnight of his vacation. Nocturia did not begin until two weeks afterward; and it was a month later that a cold took him to his physician, who, on hearing of the thirst, examined the urine and diagnosed the diabetes. Sugar and bread were omitted without material relief, so a fortnight later he was referred here for treatment. The urine then contained 6 per cent. in a single specimen four hours after a hearty meal, and in the night the twelve-hour amount, 3.9 per cent., or 55 gm., diacetic acid, ++; blood sugar before breakfast, 0.25 per cent.; blood fat, 0.58 per cent., and plasma not creamy. The weight was 57.7 kg. net, i. e., 13 per cent. below his maximum of 157 pounds net (71 kg.) six months before the onset; 12 per cent. below his weight of 145 pounds net (65.8 kg.) at onset, and 25 per cent. below the insurance average for his height and age. He was discharged eighteen days later, Oct. 13, 1922, sugar and acid free, with a fasting blood sugar of 0.10 per cent., and on a diet of: carbohydrate, 155 gm.; protein, 70 gm.; fat, 99 gm.; calories, 1,746; total glucose (Woodyatt), 206 gm.; weight, 56.8 kg., making 2.7 gm. of carbohydrate and 31 calories per kilogram.

* From the Service of Dr. E. P. Joslin at the New England Deaconess Hospital.

had similar lesions on the other side; but they were healed, or nearly healed, on admission to the hospital.

The lower extremities presented by far the largest number of lesions of the typical character. There were a few lesions on the outer aspect of the thigh, and a smaller number in the popliteal space. The muscles of the lower extremities were decidedly atrophic. The right leg had two large lesions on the outer aspect, and similar lesions were on the left leg. The dorsum of the right foot was covered with many lesions; in one area they were confluent, but in other areas a large number were isolated. On the dorsum of the left foot, however, the isolation of the lesions was more evident. They were also seen on the posterior side over the Achilles tendon, and were particularly marked over the heels, though some were also seen along the toes. The toe-nail of the left great toe consisted entirely of a large horny structure, the nail evidently having undergone complete cornification; and there was a large, horny lesion on the fourth toe of the left foot on its median aspect. The little toe of the left foot, in its entirety, had undergone almost complete cornification, for nothing that resembled a nail could be seen. There was a similar lesion on the median aspect of the little toe of the right foot. On the soles of the feet were the largest lesions, evidently the oldest ones and the ones that presented the most advanced cornification. There were three lesions on the left sole and three on the right.

Fig. 3.—Lesions on dorsum of feet; muscular atrophy of lower limbs.

The lesions were yellow, greatly resembling the color of beeswax, were hard, not tender, and varied in size from 1¼ to 1½ inches (3.2 to 3.8 cm.). The largest was 1½ inches in diameter. Some of the lesions of the soles of the feet had a lamella-like formation, but on the dorsum their outline was more or less rounded, a hyperemic zone encircling them, beyond which the color was rather white, with the center thicker than the periphery and of distinct waxy appearance. Evidently the cornification took place in the center. When the crust was pulled off, an area, which appeared moist and had a reddish hue, remained.

The prostate was broad and flat, not tender and not very much enlarged; the seminal vesicles were thickened.

Blood examination revealed: erythrocytes, 4,400,000; leukocytes, 12,000; hemoglobin, 90 per cent. The differential leukocyte count was: polymorphonuclears, 71 per cent.; small lymphocytes, 20 per cent.; large lymphocytes, 4 per cent.; eosinophils, 1 per cent.; transitional cells, 4 per cent.

Fig. 4.—Large lesion over heel.

The blood Wassermann test was negative; the gonococcal fixation test was + +.

The patient left the hospital at the end of two weeks. His condition was unimproved, and the final result is not known.

SYMPTOMS

Keratodermia blennorrhagica occurs, with few exceptions, in the male sex, only one[16] of the recent case reports being in the female. It is characterized by three cardinal symptoms; namely, urethritis (either recent or remote), arthritis, and the presence of hyperkeratosis.

Urethritis.—As a rule, a urethral discharge, which has repeatedly been described as mucopurulent, is noted. Brown and Davidson, Franckel and Dyke, Lindeman and McDowell have reported gonococci in the discharge. A history of previous attacks of urethritis can frequently be obtained. In the absence of an active discharge, filaments can be seen in the urine, and exploration of the urethra may show stricture formation. No gonococci were found in the discharge in the case reported here.

Arthritis.—On account of its constancy, arthritis is regarded as one of the three cardinal symptoms. It is nearly always multiple. The knee-joint is most frequently involved, and one or both joints may be affected,

milk (Hardy), silvery sheen or glow (Case 28); (2) as to the size of the vessels, seemingly about twice the normal diameter (Heyl); (3) as to the similarity of arteries and veins (Heyl, Reis, Heine, Marx, Hertel, our experience); (4) as to the flat, ribbon-like aspect of the vessels accompanied by absence of the light streak (Heine, Marx, Moore, Hardy, Wagener); or (5) conversely as to unusual breadth of the light streak (Case 28).

Hemorraghic points were noted by Czerny [23] twenty-four hours after the injection of fat into the veins of a dog with a normal fundus. This experiment was generously credited by Heyl with having shown "doubtless intra-ocular lipemia," but Czerny recorded nothing about the looks of the vessels, and later attempts at experimental reproduction of the condition have been unsatisfactory. Cohen did observe two small hemorrhages in his diabetic boy.

The retina itself may be tessellated from the lack of pigmentation frequently reported in diabetics (Cohen), but usually is commented on for its surprising normality.

The nerve head may be fawn color (Reis), chocolate color (Köllner) or waxy (Wagener), but it is usually normal, as are the media and the patient's visual acuity.

The iris pigment epithelium may exhibit glycogenous degeneration, indeed, to such an extent as to be characteristic of diabetes (Reis).

Illustrations of the ophthalmosocopic picture have been published by White, Heine,[24] Köllner, Darling, Dimmer [25] and McGuire. Those by the first two authors, especially Heine, are beautifully colored plates.

Differential diagnosis may be made from (1) leukemia by (*a*) the white cell count; (*b*) the exaggeration of the usual difference in size between the narrow arteries and wide veins (Heyl), and (*c*) tortuosity of arteries and particularly of the veins (Dimmer), and from (2) polycythemia by (*a*) the red cell count and (*b*) the deep color of the vessels (Heine gives a plate in parallel colors).

Coexistence of lipemia and leukemia was, however, demonstrated by Wagener in one of his cases, and the possible coexistence of lipemia and nephritis was considered by Moore [26] in 1922. He examined a series of 119 cases "as to their eye condition. Of these, four had well-marked lipemia or lecithinemia, but in none of them was it sufficiently marked to give rise to the ophthalmoscopic picture of lipemia retinalis."

Blood Fat.—The natural explanation for the appearance of retinal lipemia has been sought for by chemical determination of the ether-soluble fraction of the circulating blood. This was first done in one of these cases by Reis: total fat, 18.13 per cent.; cholesterol, 2.51 per cent. The former value has been recorded in seventeen of the twenty-eight patients cited, and in five of these the cholesterol also, though from the latter no interpretation has been drawn. The total fat in these cases averaged 9 per cent., and ranged from 26.25 (Köllner) down to 4.24 per cent. (in Case 27) and 3.50 per cent. (Wagener's Case 3).

When the blood fat diminishes, the retinal vessels appear much more normally pink (Köllner), or even perfectly normal (the facts are given in Table 3). In Case 28, the shortness of the periods, together with the relative closeness of the fat figures, synchronous with the presence and absence of retinal lipemia, enables us to limit the threshhold to between 3 and 6 per cent. of plasma lipoids by Bloor's method. More accurate fixation of the critical level will evidently require fat determinations daily or oftener, with due regard to the time elapsing between the last meal and the venipuncture.

The accuracy of such high fat values as those of Reis, Fraser and Köllner is questionable, as Wagener has already remarked.

Acidosis.—The data are not very complete. Ferric chlorid is positive in at least 57 per cent. (sixteen cases), and is not stated in ten cases; it is definitely negative in the pneumonia case and in Case 27. In Case 28 the strong Burgundy reaction in the twelve-hour amount ending just before the creamy blood was drawn had entirely disappeared in the ensuing twenty-four-hour collection. The extremes of the blood carbon dioxid were 56 per cent. by volume, i. e., normal, on admission when the retinal lipemia was recognized (Hardy); and 1 per cent. by volume five hours before death (Moore's first case). This last low figure may be skeptically received in view of the rarity of a value as low as 6 per cent. by volume.

TABLE 3.—*Diminution of Blood Fat*

	Blood Fats, per Cent.	Interval
White	.....	2 months
Köllner	26.25 → 13.50	Not stated
Hardy	9.50 → 2.90	2 weeks
Benedict	8.50 → 3.50	Not stated
Wagener	8.20 → 1.90	24 days
Case 28	6.30 → 2.95	96 hours

Blood Sugar.—This was stated only in the reports of 1921 and later, in which it was given as 0.28, 0.18, 0.54, 0.42, 0.40, 0.31, and 0.29 per cent., averaging 0.34 per cent. Oddly enough, the figure 0.54 (McGuire) rose during eight weeks' observation to 0.65 per cent., at the same time as the blood fat fell to 3.7 per cent. and the fundi became normal.

Urine Sugar.—The data are defective. The amount in twenty-four hours exceeded 170 gm. (White), 300 (Turney), and 660 gm. (Fraser). The greatest glycosuria in Case 27 was 85 gm. for twenty-four hours, and in Case 28 was 75 gm. in the twelve hours following admission.

Age.—Retinal lipemia has been said to be "a terminal symptom of juvenile diabetes" (Köllner, Moore). The facts are: For the twenty-four patients whose age was stated, the youngest was 9 (Wagener), the average 25, and the oldest 51 years (Case 17).

Sex.—Four patients were women, the sex of two patients was not stated, and there were twenty-two males, that is, 79 per cent. of the series. Probably the factor of sex is of no significance.

Soft Eyeball.—Hypotonia bulbi as a sign peculiar to diabetic coma was first reported by Krause in 1904, and in conjunction with retinal lipemia was reported by the same observer in 1906, and then by Heine, by Hertel and by Cohen. Darling tested for it with a Schiötz tonometer and got normal figures, possibly because soft eye seems to be an agonal phenomenon and because his observation was made so long before death; namely, six weeks. The two signs appear to be quite independent.

Condition on Discharge.—The immediate outcome was death in 57 per cent. of the series; of the sixteen

23. Czerny, V.: Ueber die klinische Bedeutung der Fettembolie, Berl. klin. Wchnschr. **12**: 593, 605 (Nov. 1 and 8) 1875.
24. Heine, L. (Footnote 8): Die Krankheiten des Auges, Berlin, 1921, p. 170.
25. Dimmer, F.: Der Augenspiegel, Ed. 3, Leipzig and Vienna, 1921, p. 338 (photomicrograph of the fundus of Ulbrich's patient).
26. Moore, R. F.: Medical Ophthalmology, Philadelphia, 1922, p. 168.

He returned to work in the midst of the autumn rush of business. Although he followed his diet and weighed his food, he became very tired. About December 21, work had become much heavier, and two days before Christmas he had to quit. In the attempt to gain strength, he increased his diet to: carbohydrate, 155 gm.; protein, 100 gm.; fat, 125 gm.; he showed sugar, and could get free only by reducing the fat or by fasting. Glycosuria and weakness caused him to return to the hospital four months after he had left it.

Events after readmission, Feb. 9, 1923, are shown in Table 2. Now the plasma was creamy and the retinas presented a grayish, hazy appearance, not sufficiently accounted for by the very moderately increased black pigmentation. The arteries and veins looked much alike. The white line was extremely prominent, and the usual contrast between it and the red artery was absent, while there was a silvery glow or sheen about the vessels.

Dr. F. M. Spalding reported that there was no question about this being a case of lipemia retinalis. The most prominent feature was the appearance of the arteries. They had a distinct yellowish color, in some places, almost whitish, with the silvery glow or sheen as described. The nerve heads were of fairly good color and did not show the waxy look as described in some cases. The veins had more of a chocolate color than the purple one would expect. The choroidal vessels were also more of a yellowish color.

TABLE 2.—*Course in Twenty-Eighth Case*

Date	Diet: Carbohydrate, Gm.	Diet: Protein, Gm.	Diet: Fat, Gm.	Diet: Calories	Diet: Calories, Kg.	Weight, Kg., Net	Urine: Sugar, Per Cent.	Urine: Sugar, Gm.	Urine: Diacetic Acid	Alveolar Carbon Dioxid, Mm. Mercury	Blood Plasma Before Breakfast, per Cent.: Sugar, Folin-Wu	Blood Plasma Before Breakfast, per Cent.: Fat, Bloor	Insulin Units
Feb. 9, 1923	..	..	..	....	....	....	5.8	..	++++	34	....	....	..
Feb. 9-10, 1923	..	..	..	....	....	50.9	5.0	12 hrs. 75	+++	..	....	....	9
Feb. 10-11, 1923	66	24	37	680	14.0	50.7	0.7	41	0	..	0.29	6.30	15
Feb. 11-13,* 1923	40	36	61	853	16.7	51.1	0.5	17	0	..	....	....	13
Feb. 14, 1923	..	..	..	....	....	....	....	..	....	..	0.29	2.95	

* For February 11 to 13, inclusive, the figures given are daily averages.

A second ophthalmoscopic examination, February 14, revealed no evidence of retinal lipemia. This was confirmed by Dr. F. S. Thorne, who noted that the retinal changes were no longer characteristic of lipemia retinalis. The color of the vessels was now practically normal. The chief thing present was a haziness of the fundus, probably due to a low grade retinitis.

The interval before disappearance of retinal lipemia as hitherto reported was two months (White), two weeks (Hardy), and seven and five days (Wagener). This transitoriness rather than rarity is well emphasized by Wagener as the probable cause for the paucity of observations on retinal lipemia. The even shorter interval of four days in the present case enables us, like Wagener, to confirm Heine's estimate seventeen years ago as to the blood fat level necessary to produce the characteristics of lipemia retinalis: "I think, therefore, that with 4-5 per cent. fat content of the blood the diagnosis of lipemia becomes possible with the ophthalmoscope, while with 8 per cent. the changes are very outspoken."

The patient received a total of 63 units of insulin, during which time the blood sugar percentage was unchanged, but ketonuria disappeared and the percentage of plasma lipoids was reduced one half in four and a half days. Insulin treatment was very likely of great importance in bringing about the rapid improvement.

COMMENT

The excessive brevity of the description of the retina in our first case suggests the notion that other observers, too, may have missed the chance to make adequate records on this little known peculiarity of diabetes for like reasons: (1) the absence of stimulating information in the standard textbooks; (2) the difficulty of assembling the original sources of this information, and (3) the incompleteness of any summary yet compiled. Much the best are the tables of recorded cases by Hardy and by Wagener. We have been able to extend the list of prior observers so that with the two cases here described, the total comes to twenty-eight: Case 1, Heyl[1] and Starr;[2] Case 2, White;[3] Case 3, Reis;[4] Case 4, Fraser;[5] Case 5, Turney and Dudgeon;[6] Cases 6 and 7, Krause;[7] Cases 8 and 9, Heine;[8] Case 10, Marx;[9] Case 11, Hertel;[10] Case 12, Köllner;[11] Case 13, Stoerk;[12] Case 14, Darling;[13] Case 15, Ulbrich;[14] Cases 16 and 17, Moore;[15] Case 18, Moore;[16] Case 19, Williamson;[17] Case 20, Cohen;[18] Case 21, Hardy;[19] Case 22, McGuire;[20] Case 23, Benedict;[21] Cases 24, 25 and 26, Wagener.[22]

Nomenclature.—The name favored by the discoverer, Heyl of Philadelphia, was intra-ocular lipemia, but subsequent students have uniformly preferred his second choice: retinal lipemia or lipemia retinalis. Lipemia angioretinalis was suggested as more accurate by Cohen in 1921, but seems unlikely to supplant the original term of forty-three years' standing.

Eyeground.—The diagnosis is based on the ophthalmoscopic aspect of the vascular net, (1) as to the color, variously described as light salmon (Heyl), strawberry and cream (White), milky (Heine), light pink (Köllner, Darling), creamy, waxy (Heine, Köllner, Darling, Moore), ground glass effect (Moore), malted

1. Heyl, A. G.: Remarks on Lipaemia Retinalis Occurring in a Case of Diabetes Mellitus, Philadelphia M. Times **10**: 318 (March 27) 1880; Intra-Ocular Lipaemia, Tr. Am. Ophth. Soc. **3**: 54 (July) 1880.
2. Starr, L.: Lipaemia and Fat Embolism in Diabetes Mellitus, M. Rec. **17**: 477 (May 22) 1880.
3. White, W. H.: Guy's Hosp. Gaz. **16**: 295 (July 19) 1902; A Case of Diabetic Intra-Ocular Lipaemia, in Which the Blood was Examined During Life, Lancet **2**: 1007 (Oct. 10) 1903.
4. Reis, W.: Zur Kenntniss eines bisher kaum beachteten Augenspiegelbildes bei Lipaemie in Folge schweren Diabetes, Arch. f. Ophth. **55**: 437 (March 24) 1903.
5. Fraser, T. R.: Lipaemia in Diabetes Mellitus, Brit. M. J. **1**: 1205 (May 23) 1903.
6. Turney, H. G., and Dudgeon, L. S.: A Case of Intra-Ocular Lipaemia Associated with Diabetes, J. Path. & Bacteriol. **11**: 50, 1906.
7. Krause, P.: Ueber Lipämie im Coma diabeticum, Verhandl. Cong. f. inn. Med. **23**: 521 (April 26) 1906; La lipémie dans le coma diabétique, Sem. méd. **26**: 225 (May 9) 1906; Zur Symptomatologie des Coma diabeticum, Deutsch. med. Wchnschr. **33**: 85 (Jan. 10) 1907.
8. Heine, L.: Ueber Lipaemia retinalis und Hypotonia bulbi im Coma diabeticum, Klin. Monatsbl. f. Augenh. **44**: 451 (Dec.) 1906; Augenspiegelbefunde bei diabetischer Lipaemie, Deutsch. med. Wchnschr. **33**: 85 (Jan. 10) 1907.
9. Marx, E.: Ein geval von lipaemia retinalis, Nederl. Tijdschr. v. Geneesk. **2**: 808 (Sept. 21) 1907.
10. Hertel, C.: Mikroskopische Präparate und Abbildungen von einem Fall von Lipaemia retinalis, Ztschr. f. Augenh. **21**: 551 (May) 1909.
11. Köllner, K.: Lipämie, Centralbl. f. prakt. Augenh. **34**: 212 (July) 1910; Mitteilung über Lipämie, Klin. Monatsbl. f. Augenh. **49**: 109 (July) 1911; Lipaemia retinalis, Ztschr. f. Augenh. **27**: 411, 1912.
12. Stoerk, E.: Ein Fall von hochgradiger Lipämie bei juvenilem Diabetes mellitus, Wien. med. Wchnschr. **61**: 1297 (May 13) 1911.
13. Darling, C. G.: Retinal Lipaemia in Severe Diabetes, Arch. Ophth. **41**: 355, 1912.
14. Ulbrich: Lipaemia retinalis, Tr. Ophth. Gesellsch. in Wien, Nov. 11, 1912, Ztschr. f. Augenh. **29**: 83, 1913.
15. Moore, R. F.: Lipaemia Retinalis, Lancet **1**: 366 (Feb. 20) 1915.
16. Moore, R. F.: Diabetes in Relation to Diseases of the Eye, Tr. Ophth. Soc. U. K. **40**: 15, 1920.
17. Williamson, R. T.: Ophthalmoscopic Appearances in Certain Rare Cases of Diabetes, Brit. M. J. **1**: 120 (Jan. 22) 1921.
18. Cohen, M.: Report of a Case of Lipaemia Retinalis with Hypotony in Diabetic Coma, Arch. Ophth. **50**: 247 (May) 1921.
19. Hardy, W. F.: Lipaemia Retinalis, Tr. Am. Ophth. Soc. **19**: 229 (June 15) 1921.
20. McGuire, H. H.: Observations in a Case of Lipaemia Retinalis, Tr. Am. Ophth. Soc. **20**: 235 (May 1) 1922; Am. J. Ophth. **5**: 862 (Nov.) 1922.
21. Benedict, W. L.; Discussion of McGuire's paper, Tr. Am. Ophth. Soc. **20**: 241 (May 1) 1922.
22. Wagener, H. P.: Lipemia Retinalis: Reports of Three Cases, Am. J. Ophth. **5**: 521 (July) 1922.

from its use, but one would think that the strain of a stimulant so powerful as intravenous caffein should be avoided unless actually needed.

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THE SCOPE OF THE ROENTGENOLOGIST'S REPORT

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There are two recognized extremes in the conception of what the report of a roentgenologic examination should include. The one extreme is typified by the report which describes in detail all that the roentgenologist sees in the film or on the screen, but does not tell what he thinks about it, what conclusions he draws from it, what it means to him. Such a report is, in its perfect form, a bald recital of roentgen signs, like the pathologist's description of a postmortem specimen, or a dermatologist's description of a skin lesion: at its best a perfect word picture but without meaning to one unable to interpret it. This form of report puts most of the burden on the stenographer; it commits the roentgenologist to nothing except accurate vision and good description; it is bound to be verbose; it tells much, yet almost nothing. It would be the ideal form of report from one roentgenologist to another; but, coming from the roentgenologist to the internist or the surgeon, it conveys information only in proportion as the recipient of the report knows technical roentgenology.

At the other extreme is the report which gives merely a roentgen-ray diagnosis. This may be done in a sentence; it is economical of time and effort, it commits the roentgenologist absolutely, but I think it is even a worse form of report than the other. Such a report, it is true, gives the roentgenologist's opinion; but it utterly fails to give his grounds for that opinion. If it is unwise to assume that the internist or surgeon is technically familiar with the finer points of roentgen diagnosis, it is equally unjustifiable to conclude that he is entirely unskilled in weighing roentgen-ray evidence. Any consultant in an obscure case is expected to give not only his opinion but also his method of arriving at that opinion and his evidence in favor of it; and the roentgenologic consultant should be no exception. Roentgen-ray diagnoses can seldom be made. I mean by this that it is relatively rare that the roentgen-ray evidence alone suffices to establish the whole truth about a clinical condition. Even in a recent fracture, it would be foolhardy to attempt to prescribe treatment and venture a prognosis without seeing the patient as well as the roentgenograms.

There is a negative form of this type of report which is also, in my judgment, very bad. I refer to the gastro-intestinal report, for instance, which says, "The gastro-intestinal tract of Mrs. Blank was examined by means of a barium meal and enema. No evidence of intrinsic disease was found." Such a report is extremely incomplete, even though, in the judgment of the roentgenologist, it is perfectly truthful. No roentgen-ray man, simply because a patient had been referred to him on suspicion of gastric ulcer, would fail to mention a gastric cancer if he found it; yet such a report as that cited may be almost equally misleading. The patient may have had a marked ptosis, or strongly suggestive indirect evidence of gallbladder disease, or a spastic colon, or ileocecal incompetence without impairing the technical truthfulness of the report, if the examiner does not happen to attach much importance to these things. In short, such a report is only of as much value as the roentgenologist's unsupported opinion, and utterly fails to convey the detailed data which an analytic mind would require.

The roentgen-ray findings, to insure their most effective use, must be interpreted in the light of the clinical data. This does not mean that the roentgenologist must take an accurate and detailed history, or make a physical examination. Sometimes it is well that he should do these things; but, if they are done, they should as a rule follow, rather than precede, his plate or screen examination. The fact remains that, to derive from them their utmost value, the roentgen-ray signs must be correlated with the clinical aspects of the case. It is certainly not ordinarily the function of the roentgenologist to do this, but it is his function to aid the surgeon or the internist to the fullest extent in doing it. This function is not fully subserved by either of the forms of report dealt with.

The ideal report is one that embraces, from the clinician's point of view, the advantages, and from the roentgenologist's, the disadvantages, of both the types mentioned. It paints the word picture of what the roentgenologist saw on the screen or the plate as fully as the first form, and it gives conclusions, nay, even perhaps a diagnosis, as did the second type. It not only commits the roentgenologist as to his opinion, but it makes him give his grounds for that opinion. It involves more work on the part of both the writer and the reader than either of the other forms. It puts the roentgenologist out in the open where the clinician can shoot at him, and then provides the ammunition. But it does offer a fair chance to correlate the laboratory and the clinical aspects, and thus arrive at the truth.

If there are films and the clinician is to look at them, this type of report serves as a guide book and enables him, perhaps, to observe points of interest with less waste of time and more comprehension. If there has been a fluoroscopic examination, such a report enables the clinician to visualize it perhaps better than if he had been present; surgeons, particularly, are notoriously impatient about waiting for their pupils to dilate sufficiently to get the most from the fluoroscopic image.

The report should often include, if negative, a statement of the limitations of the particular examination conducted. For example, if the urinary tract is being examined for calculus, and none is found, it is mutually helpful for the roentgenologist to state that 25 per cent. of bladder stones, 15 per cent. of ureteral stones, and 10 per cent. of kidney stones are not demonstrable by roentgen methods. If the chest is examined fluoroscopically only, it should be mentioned that this sort of examination reveals only the grosser changes, and may entirely fail in revealing early lung changes. If films of the gallbladder region are asked for, and prove negative, it is well to state that only perhaps 30 or 40 per cent. of gallstones can be seen on the film, and perhaps 60 or 70 per cent. of diseased gallbladders; while, if a complete gastro-intestinal examination is made, positive evidence will be obtained in perhaps 80 per cent, or more of diseased gallbladders.

In certain examinations, topography is of as much importance as pathology, and should be fully entered into. This is particularly true in sinus and mastoid

patients who died, one had pneumonia (Turney), while coma clearly claimed ten and probably also the remaining five.

Duration.—The duration of lipemia retinalis from diagnosis to death or, when that was unknown, to discharge from the hospital, varied from twenty hours (Moore, Case 2) to seven weeks (Heyl, Darling), nine weeks (Köllner), and four months, nineteen days (Case 27). These long intervals before death, together with the recoveries mentioned, prove that the outlook, while grave, like that of hyperlipemia in general, is by no means immediately alarming.

CAFFEIN INTRAVENOUSLY—THE BEST OF STIMULANTS

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In discussing the use of caffein as a stimulant, I wish to discuss it as a stimulant only, not as a permanent remedy. As a temporary stimulant, it is the one and only drug which in my experience never completely fails. Stimulants such as strychnin, atropin, strophanthin, digitalis intravenously, and the weak member camphorated oil have the unhappy faculty of usually failing when they are most needed—that is, in desperately ill patients. This we should expect. The poisons elaborated in many diseases are so much more potent than drugs that, in the majority of such cases, stimulating drugs seem to amount to little more than the water in which they are dissolved. Caffein does not come in this class, however, if given intravenously. If given subcutaneously, it fails as other stimulants do. My attention was first drawn to its usefulness by a case observed when I was a house officer in the Massachusetts General Hospital in 1911:

An old man with bronchopneumonia was admitted to the hospital one afternoon. His condition seemed good. I promised his relatives I would notify them if there seemed to be any immediate danger. This gratified them greatly, since there were several important matters which they wished to settle if his illness appeared likely to terminate fatally. I left the hospital for about two hours during the evening, and on returning found that the old man had suddenly taken a turn for the worse and was at that time apparently moribund. He was as deeply comatose as a living person could be. He was practically pulseless. Breathing was of the Cheyne-Stokes type and labored during the periods of dyspnea. Large, coarse, tracheal râles were audible throughout the ward, owing to accumulation of mucus in the trachea.

The patient had been given strychnin, atrophin, camphorated oil and strophanthin intravenously, and had shown no response to them whatever. At the time I saw him it appeared useless to give medication subcutaneously. In his state there seemed little likelihood of its absorption. For this reason, in a desperate effort to resuscitate him, he was given 2 grains of caffein sodiobenzoate intravenously. He opened his eyes almost immediately and began to talk. His recovery was so unexpected as to be positively uncanny. He began to breathe regularly and deeply, and was troubled no further with mucus in the trachea. The pulse became strong and regular. When his relatives arrived, he conversed with them brightly and intelligently, and arranged his business affairs. During the remainder of the night he had a good pulse, regular respiration, and was mentally as clear as one could wish for. This lasted until the following night, when he again lapsed into the state just described and passed away, this time in spite of further use of caffein.

This experience has been repeated many times with almost equally good temporary results. The drug has been used in moribund cardiorenal cases; in uremia associated with coma; in prostate cases with ascending infection; in uremia and coma; in bronchopneumonia with coma, and in general sepsis with coma. The result in the majority of cases has been temporary, and while the drug has often been repeated two or three times with good effect, the later doses have rarely been as effective as the first. In the case about to be reported, however, caffein was repeatedly used with the result that the patient recovered from an illness which otherwise would have almost certainly terminated fatally:

An old man for three years had been troubled with prostatic hypertrophy and infected residual urine. He lived a catheter life for about one month, and finally, on account of his serious ill health, gave his consent to operation. A suprapubic cystostomy was performed without much preliminary preparation. He got along well for several days, when one evening he rather suddenly lapsed into coma. I saw the patient then for the first time. He evidently had bronchopneumonia; the temperature was 103. This, with the fact that he was nearly uremic, made the outlook grave. In fact, he actually looked moribund. It seemed that the duration of life should be estimated in hours rather than days. His pulse was very weak and irregular; breathing was of the Cheyne-Stokes type and difficult because of mucus in the trachea. Coma became so deep that he could not be roused at all.

He was given intravenously two grains of caffein sodiobenzoate. The result was about like the one described in the previous case. He gained consciousness almost immediately, the breathing, pulse and color improved—in fact, his general condition improved to such an extent that there was no concern about his going through the night without difficulty.

The same comatose condition recurred the following evening and was again relieved with caffein. On the two days that followed, several doses of caffein were required both during the day and during the night. At the end of this time his temperature came to normal. The crisis had evidently occurred, and convalescence and recovery had begun. One month later the prostate was removed without untoward result.

In attempting to account for the splendid effect of caffein when given intravenously, it might be said that caffein is a time honored and recognized stimulant. It has been used by mouth, by rectum, subcutaneously and perhaps intravenously. Its subcutaneous use in my hands has not given striking results as a strong stimulant, and has had the unfortunate effect of interfering with sleep. In every case in which it has been needed sorely, it has failed when given subcutaneously.

The impression has been gained from its intravenous use that it is the best of drugs that can be used as a stimulant. Following its use, the mind usually becomes bright, and the depressed vital reflexes so important to the life and welfare of the individual become active and normal. The good effect of the drug has seemed to me to lie chiefly in the brightening up of consciousness with improved cortical control of the vital reflexes, and a resulting improvement in breathing, circulation and other fundamental functions which may have been impaired.

The chief sphere of usefulness for intravenous caffein lies in its employment in desperate cases when other remedies fail and when consciousness and reflex activity are at a low ebb; for example, in cases of coma, shock, collapse under anesthesia, and poisoning from morphin and other depressant drugs. The remedy should not be used unnecessarily, nor repeated unless indicated. I have never seen marked untoward effects

clinician all the information the roentgenologist has been able to obtain by his peculiar method of examination, and should offer it in such form as will most facilitate the correlation of the roentgen and clinical evidence.

Special Articles

THE CARE AND FEEDING OF INFANTS

(Continued from page 919)

[NOTE.—This article completes the series on the care and feeding of infants. These articles, with additional tabular matter and an historical account of the subject, together with illustrations, will be reprinted in book form. When the book is available, announcement will be made in THE JOURNAL.—ED.]

FEEDING AFTER THE FIRST YEAR

The average infant fed on cow's milk mixtures will require as a minimum, per kilogram of body weight, during the later months of its first year, fat, 4 gm.; protein, 3.5 gm.; carbohydrates, 12 gm.; calcium oxid, 0.17 gm., and a total water content in its day's food including that contained in the milk equal to 125 c.c. per kilogram, which approximates one eighth of its body weight. (Per pound of body weight at 1 year: protein, 1.5 gm.; fat, 1.8 gm.; carbohydrates, 5.5 gm.; calcium oxid, 0.08 gm.; water, including that contained in the milk, equal to 2 ounces.)

A diet so constructed will furnish approximately 100 calories per kilogram, or 45 calories per pound of body weight.

In a study of the diets of a large group of normal infants and children, Holt and his co-workers found that the food requirements of older infants and children showed a gradual decrease per kilogram of body weight after infancy. The *fat* taken diminished to 3 gm. per kilogram by the *sixth year,* while the *protein* intake decreased to about 2.5 gm. per kilogram at 6 years, and remained at this value or slightly below it until the end of growth. Of the protein, about 66 per cent. was in the form of animal protein from milk, eggs, meat, etc., the remainder being taken as vegetable protein. The *carbohydrates* should, to a large extent, be used to supplement the fat and the protein in the diet, the fat and protein, however, being first provided for. Holt believes on this basis that about 12 gm. of carbohydrates per kilogram at 1 year, with decreasing amounts to between 10 and 11 gm. per kilogram at 6 years, will properly balance the diets. The average of all ages showed that about 50 per cent. of the carbohydrate was taken in in some form of sugar and an equal amount of starch. (Per pound of body weight at 6 years: protein, 1.2 gm.; fat, 1.35 gm.; carbohydrates, 5.0 gm.)

TABLE 30.—*Amounts and Calories at One Year and at Six Years* *

	Grams or Cubic Centimeters per Kilogram				
	Protein, Gm.	Fat, Gm.	Carbohydrates, Gm.	Calcium Oxid, Gm.	Water, C.c.
At 1 year.....	3.5	4.0	12.0	0.17	125
At 6 years....	2.5	3.0	11.0	0.17	125
	Grams or Cubic Centimeters per Pound				
At 1 year.....	1.5	1.8	5.5	0.08	60
At 6 years....	1.2	1.35	5.0	0.08	60

* The percentage distribution of the calories in the diet will approximate: protein, 15.0; fat, 35.0; carbohydrates, 50.0.
Note.—1 gram of protein = 4.1 calories; 1 gram of fat = 9.3 calories; 1 gram of carbohydrates = 4.1 calories.

At 6 years the diets will approximate 85 calories per kilogram, or 38 calories per pound of body weight.

The essential mineral salts will be contained in sufficient amounts to meet the child's requirements in a well balanced diet. The total fluid requirements also decreased to an average of about one eighth of the body weight, 125 c.c. per kilogram, 60 c.c., or 2 ounces, per pound.

While the average healthy infant will require a greater amount of food per pound of body weight to meet its needs for growth and development, the average percentage distribution of the amounts and calories will remain approximately the same at the different ages.

TABLE 31.—*Average Amounts of the Various Food Constituents Required by Children*

Age in Years	Weight		Protein, Grams	Fat, Grams	Carbohydrate, Grams	Calories
	Pounds	Grams				
1	21.0	9,513	31.5	37.8	115.0	962
1½	25.3	11,460	38.0	45.5	140.0	1,153
2	28.0	12,684	39.2	47.6	154.0	1,235
3	32.9	14,905	42.5	52.6	164.0	1,338
4	36.1	16,353	46.96	54.15	180.0	1,434
5	41.2	18,663	49.4	57.7	206.0	1,584
6	45.0	20,385	54.0	60.75	225.0	1,709

ADDITIONS TO THE DIET AFTER THE FIRST YEAR

The diet of a growing child should be so constituted as to contain sufficient quantities of the following:

Whole Milk.—It has become our custom to postpone the feeding of whole milk without the addition of carbohydrates until after the first year. While there is no contraindication to feeding whole cow's milk by the beginning of the ninth month, or even earlier, when indicated, the milk being boiled or alkalized, the addition of carbohydrates above the amount contained in whole milk is of advantage to the infant, both from the standpoint of its metabolic needs and in lessening the tendency toward constipation in the artificially fed infant.

At no time is the infant to be fed more than 1 quart of whole cow's milk in twenty-four hours.

Unless the infant shows a tendency to take less than the required amount of milk in the form of a mixture, some water and 1 ounce of sugar are retained in the mixture until the infant is 1 year old. The water is gradually lessened from the tenth month so that by the end of the twelfth month only 2 to 4 ounces are retained— an amount sufficient to the sugar. The total fluid needs after the first year are a minimum of 2 ounces per pound of body weight daily. Water may be given from a bottle two or three times daily, although not essential if the diet contains sufficient to meet the infant's needs.

Cooked Cereals.—These should form a part of at least one or two meals. Those made from whole grain are the most valuable. The process of milling which removes the outer shell of the grain causes a loss of the greater part of the protein, mineral matter and vitamins.

Toast and Bread Crusts.—Toast and bread crusts which have been spread with *butter* or *jelly* may be given at the end of one of the meals.

Green Vegetables.—These are especially valuable because of their mineral salts and vitamins. They

examinations. The mere discovery that a frontal sinus is absent, that a sphenoid in a small child is large enough to be clinically important, or that the mastoid air cells are unusually extensive may aid materially in the solution of a clinical puzzle.

Wherever it is possible conservatively to do so, an estimate should be made of the activity and clinical importance of the pathologic changes revealed on the film or screen. Disease which has passed and gone often leaves an historical record in altered roentgen-ray densities, and it is particularly important for the clinician to be reminded that not all positive roentgen-ray findings mean active disease. The most common example of this is the almost universally present group of calcified hilum glands seen in adult chests. These vary in number and in density, and are simply a record of the universal early tuberculous infection. Instead of implying active disease, they are more likely to indicate a normal resistance to infection. As Bushnell has pointed out, the person who has had no tuberculosis is most unfortunate. Another commonly seen historical record of past disease is the increased density in an antrum shadow. Sinus infections of the more common type are accompanied by a thickening of the bony wall which remains after active infection is past. Such densities are properly interpreted as evidence of sinus disease past or present. If the walls of the air cells in the ethmoid labyrinth or in the mastoid are once broken down by infection, they do not regenerate. If spontaneous healing occurs, the roentgen-ray picture may be much the same five years later, as during the active course of the pathologic process; hence the necessity for stating that the part shows evidence of disease, but not that disease is present. Only the clinician can say that. On the other hand, it is possible with most tuberculous lesions of the lung to say whether or not there is present activity. The active duodenal ulcer can as a rule be distinguished from the scar of the healed lesion.

Another instance of the variable relation between roentgen pathology and the clinical aspect is the so-called silent urinary calculus. Not infrequently, large urinary calculi are discovered in the course of an examination of the spine, gallbladder or sacro-iliac joint. Such an accidental finding may somewhat overshadow the really important condition, in case the stone so discovered is of the silent variety and is not causing symptoms. On the other hand, in the course of the examination of the urinary tract, it is not unusual to find marked osteo-arthritis of the lumbar spine, which, however, may be making no trouble whatever. It is not the function of the roentgenologist to determine in the individual case whether such a condition of the spine can explain the symptoms present. It is, however, his duty to note and describe the condition. The point is that, incidentally and for the moment, any important pathologic change may in the films overshadow the really significant condition.

Occasionally, one finds, in a patient referred for fracture, not only the fracture suspected but also a bone cyst or tumor which far overshadows the fracture in importance, in that it is not only the cause of the present fracture but may lead to a general condition much more serious to the patient than a mere broken bone. On the other hand, the existence of marked obvious bone disease should not lead one to neglect, as it often has, the presence of a fracture without much displacement.

In roentgenology, as in other departments of medicine, there are controversial points on which opinion is still in the formative stage. The roentgenologist's report on any such condition is certain to be colored by his own attitude toward the controversy. It is right that this should be so; but it is particularly important, under such circumstances, that the report make clear the fact that the evidence in such instances is not universally accepted, or that its interpretation is still somewhat a matter of doubt. A particularly apt example of this situation exists in the present attitude of the roentgenologic fraternity toward roentgen-ray diagnosis of gallbladder conditions. About gallstone shadows there can, of course, be no question. If seen, they indicate with certainty the presence of gallstones and, by inference, past or present gallbladder disease. There are, however, two other types of positive roentgen-ray evidence with regard to the gallbladder which have assumed steadily increasing importance during the last few years. First in point of time is the so-called indirect evidence of gallbladder infection consisting in deformities of the duodenum, alterations in tone of the pyloric portion of the stomach, and fixation or other abnormality in the hepatic flexure of the colon. These phenomena are, of course, caused either by adhesions resulting from inflammatory processes in the gallbladder and ducts, or by reflex nervous disturbances originating in the same locality, or by both causes acting together. In their typical form they give a picture that is characteristic and convincing to a large proportion of roentgen-ray men. More recently, the effort to demonstrate the gallbladder itself on the roentgen-ray film has somewhat overshadowed these indirect signs. George and Leonard of Boston, and Kirklin of Muncie, Ind., have been largely responsible for the theory that any gallbladder which can be definitely shown on the film is pathologic. All have large and convincing series of cases in which their findings have been surgically confirmed. They believe that it is often possible to show a gallbladder which contains stones when the stones themselves are not shown. They believe that the normal gallbladder can never be shown as a distinct shadow on the film. I am told that the surgeons with whom they work accept their findings without much reservation, as a result of confidence born of a rather prolonged experience. However, I think that perhaps most surgeons, and I know that many roentgen-ray workers, are extremely dubious about accepting the fact of a gallbladder shadow as proof of gallbladder disease. The whole point is one which will require much more work and a much larger series of operative checks to clear it up to every one's satisfaction. In the meantime, reports of gallbladder examinations in which the gallbladder, but no stones, is shown, should indicate clearly that such a finding, while indicative of gallbladder disease with or without stones, latent or active, does not by any means imply that surgical interference is called for on that basis alone.

SUMMARY

It would seem that the ideal roentgen-ray report should present a careful and accurate description of the picture seen. It should offer whatever explanation of variations from the normal may be conservatively given on a basis of established roentgen pathology. It should give, when this can be conservatively done, an estimate of the activity and present importance of the lesion, such estimate, however, to be derived entirely from the roentgen signs. It should place in the hands of the

administering them often results in a rebellious attitude on the part of the child. These tendencies should be recognized in early infancy, and the importance of counteracting them impressed on the mother. The attitude that she is to assume toward the infant must be definitely explained, and, on her readiness to cooperate, the physician should base his opinion as to her fitness to have charge of her own child. If the child is placed in care of a nurse, the physician must painstakingly explain the requirements and handicaps of the individual case. It is self evident that a neurotic attendant does not improve the situation.

The modern tendency to provide an endless variety in foods for the growing child leads it to acquire false dietetic inclinations. The same may be stated about the more recent tendency to keep detailed notes on the calories consumed by the family. This habit in many instances is carried to the extreme, thus influencing the mother's better judgment. It should be the physician's duty to provide a suitable diet, and the mother's to serve it. To accomplish the desired result the child should be taught to enjoy proper exercise—rest periods should be maintained and good hygienic surroundings provided.

The appetite must not be considered a safe guide in the selection of food. The physician should consider it sound practice to prescribe what the child should eat, and the mother's duty to serve it.

A complete change of surroundings, such as moving from the city to the country, away from the influence of the parents, placing the child in charge of a proper attendant, commonly results in a speedy improvement in the general condition and stabilization of the nervous system.

Temporary hospitalization is sometimes necessary if the more ideal course cannot be realized.

THE END.

New and Nonofficial Remedies

ETHYLENE AS AN ANESTHETIC

Preliminary Report of the Council on Pharmacy and Chemistry

The Council has authorized publication of the following statement on the experimental status of ethylene in medicine.

W. A. PUCKNER, Secretary.

A report on "The Physiologic Effects of Ethylene—a New Gas Anesthetic," by A. B. Luckhardt and J. B. Carter, was published in THE JOURNAL, March 17, 1923, p. 765.

Ethylene is a well known substance chemically, having the formula $CH_2:CH_2$. At room temperature and ordinary pressure it is a gas slightly lighter than air; it is not very soluble in water, is more soluble in alcohol, but is soluble in ether. A mixture of ethylene and oxygen explodes when brought in contact with a naked flame. It is solid below —169.4 C., and boils at —103.9 C. It is generally prepared from alcohol by a so-called dehydrating action. The product reported in the paper was prepared by interaction of alcohol and orthophosphoric acid. So far neither the product prepared by the authors nor any commercial product has been examined in the A. M. A. Chemical Laboratory. As soon as a satisfactory market product is found, standards of purity will be elaborated.

The animal experiments reported by Luckhardt and Carter indicate that ethylene has a direct action on the nervous system when a concentration of 90 per cent. is used; that the motor reflexes are abolished at this concentration, and that the phenomena produced by the undiluted gas are partly asphyxia, which factor can be removed by the addition of oxygen, when it is seen that narcosis results from the ethylene itself. The authors believe that the ethylene does not react with the hemoglobin of the blood.

The trials carried out by Luckhardt and Carter on human subjects appear to confirm the anesthetic value of ethylene, as demonstrated on animals. Their experiments indicate that deep surgical anesthesia can be induced without marked unpleasantness. Analgesia is reported to come on easily and apparently long before surgical anesthesia is established. The authors believe, as a result of the experiments, that ethylene will be found more desirable than nitrous oxid, because of its ease of administration and rapid recovery after long continued administration. However, the anesthetic results reported have been only on persons in normal health.

The available evidence for the value of ethylene as a new anesthetic is thus far limited to the report mentioned. Particular attention is called to the conclusion of the authors: "This must be considered as a preliminary report of experimental work which has not been carried far enough to warrant general clinical use." In view of this, the Council considered the report and recommended that confirmation of the work obviously is necessary before more than a tentative acceptance of ethylene can be accorded. Nevertheless, it is recognized that the status of ethylene as an anesthetic is such as to warrant further research with the substance; as preliminary to such research the quality of the product, particularly absence of toxic impurities, must be determined. The Council has deferred acceptance of ethylene for New and Nonofficial Remedies until proof has been furnished that the product is a useful addition to the list of already accepted anesthetics, and until a satisfactory product is on the market.

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

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Rabies in Greece.—The *Grèce médicale* gives the report of the Pasteur Institute at Athens, since the foundation of the Lyssiatrion in 1894 to date. There have been 18,846 applicants, and treatment was given to more than 80 per cent. This, in proportion to the population of Greece, is five times the number of persons bitten by animals in comparison to France. The bite had been cauterized in only 13 per cent. of the cases. The total mortality was 0.4 per cent., but omitting those who died within two weeks, it was only 0.1 per cent. of the 15,170 treated.

also give a needed bulk to the food, thereby tending to prevent constipation. They may be classed in two large groups—the tubers, such as potatoes, turnips, beets and parsnips—and the green vegetables. Of the latter group the leafy vegetables, such as spinach, lettuce, cabbage, sprouts, chard, cauliflower, asparagus, celery, turnip and beet tops, have an especially high mineral and vitamin content, as well as being rich in iron. Peas and beans have a high protein content, but this is not sufficient to replace the animal proteins in the diet of the growing child. Tomatoes are especially valuable as an antiscorbutic. Whenever possible, the water in which the vegetables are cooked should be retained, as it contains a large part of the mineral salts of the plants.

Beef Juice.—Because of its high iron content, beef juice proves a valuable addition to the diet in the latter half of the first year. Beginning with one-half ounce, the quantity may be increased to 1 ounce or, at most, 2 ounces daily. It can be mixed to advantage with the vegetable purée.

Bacon.—A slice of crisp bacon containing very little lean may be given to advantage during the last months of the first year.

Broiled Lamb Chops; Scraped Beef; Chicken and Fish.—These may be added to the diet during the second year. All meats should be finely divided. Beef steak, roast beef and lamb are better withheld until the child shows a tendency to masticate its food. Even young children may be allowed to gnaw meat from bones, because of the beneficial influence on the teeth, gums and salivary glands. The flesh foods confer a desirable palatability on vegetable foods with which they are served. They should form only a limited part of the diet of young children.

Fruits.—Fruit or fruit juices should always be considered a necessary addition to the daily diet, and should form a part of at least one meal. They can be used to best advantage at the end of the meal. Raw fruits are of even greater value than cooked fruits. Scraped apple and banana may be given early in the second year.

Honey and Jellies.—These may be spread on toast and bread.

Eggs.—These contain every factor vital to the needs of the body for development, but nevertheless need to be combined with other foods to balance the diet properly. They can be started at the beginning of the second year, either in the form of coddled egg or as egg custard. Very small amounts should be given at the first feeding until it is ascertained whether the infant has an idiosyncrasy to egg. After the fourteenth month, a half egg or more may be fed every second day. It may be alternated with beef juice or scraped beef.

Cottage and Cream Cheese.—These may form a part of the diet at the end of the second year.

Desserts.—Simple desserts, such as custard, pap, junket, gelatins, tapioca and rice pudding, are recommended during the second year. Only moderate quantities should be served, and then only at the end of the meal. The child should be taught to consume the major items of the meal before taking the dessert.

FACTS TO BE CONSIDERED IN FORMULATING THE DIET

Children should be watched to see that they do not swallow their food without chewing it. It is stated that when we chew fibrous foods we exert a pressure of one hundred or more pounds on the teeth, and this insures a good circulation of blood in the inner part, and is an important factor in developing the teeth and jaws. It is especially important for children that the last article eaten should be of such a nature as to cleanse the teeth.

Soft foods require little or no mastication, and therefore call forth a minimum secretion of saliva and are of no aid in developing the jaws and preserving the teeth.

Green vegetables require mastication, and therefore have a beneficial effect in the development of the teeth; and, because of their bulk and some of their constituents, they stimulate intestinal peristalsis. Breadstuffs and meat have an added value in that they require mastication.

Carbohydrate residues tend to favor decay more than do meat and vegetable particles. It is therefore of great advantage to finish the meal with fruits, vegetables or hard crusts rather than with soft desserts and other sweets.

Eating Habits.—Young children should be fed at regular hours. Incessant eating is one of the greatest handicaps to proper development. The child should be taught what kind of a diet best promotes health, and encouraged to eat the food placed before it by the good example of the other members of the family. Eating between meals necessarily will result in a loss of appetite, and sooner or later the result becomes manifest in the child's lack of development. It often becomes necessary to cultivate slowly a liking for spinach and other vegetables. It is always to be remembered that milk, cereals and vegetables must take precedence over meats and sweets. The diet should be so constructed in the individual case as to overcome any tendency toward constipation.

Overeating.—This is less likely to occur when the number of meals is limited to stated hours. The combination of overeating and constipation is probably the most important factor in the development of anorexia in childhood. It has been established that a reverse peristalsis may follow, with a flowing of the contents of the intestine back toward the stomach, with nausea and belching. This abnormal nervous reaction soon results in repugnance to all foods. Carbohydrate fermentation and protein decomposition in the intestinal tract aggravate the condition.

Poor Hygienic Conditions.—Lack of fresh air, too limited exercise and sleeping in closed rooms all have a detrimental influence on appetite, digestion and physical development.

PSYCHOLOGY OF CHILD FEEDING

Two factors are of prime importance—inheritance and environment. In order to meet the needs of the many children with whom the physician comes in contact, he must remember that individual children develop and grow at different rates, and that many, by reason of bad heredity, are neurotic and anemic; and when improper feeding is added to their difficulties, the resulting problem calls for tact in its solution.

The high tension, nervous child is frequently the offspring of neurotic parents. A nervous mother has a direct influence on the development of the infant. In such an environment, unless the child is an exceptional one, there is great liklihood of the daily routine being broken to meet the whims of the child. The introduction of new foods and changes in the methods of

Kelman regard their observations as further evidence to prove the existence of a clinical entity characterized by a primary hypertension. They further suggest that variations in blood pressure in this condition are the direct result of vasomotor disturbances. Perhaps it will lead to more rapid progress in the study of hypertension if we frankly admit that "at present there are no definite facts to point to any of the food substances as having a causative relation to blood pressure."

A CHEERFUL PROSPECT IN THE FIELD OF PUBLIC HEALTH ACTIVITIES

Courage is essential to many of the struggles which man must face, and they are not always confined to the conventional battlefield of contending armies. Good fights must often be fought in the course of every-day life. Nothing helps more to maintain courage in the face of severe obstacles than does a firm conviction in the rightness of the cause involved. It is doubly needed when the victory seems far away and the desired outcome is slow in arriving. It has recently been remarked that the question of living satisfactorily, in the present state of society, frequently resolves itself into combating the prevalent agencies of disease transmission. In addition to this, we are reminded further, are the dangers lurking in harmful foods, the hazard of acute poisoning, the menace of hereditary taint, the perils of degenerative disease, the attacks of pathogenic bacteria, and the deplorable functional disturbances. To face squarely the problems involved, Williams[1] adds, requires more courage than some can muster.

From day to day, or even from year to year, the efforts of modern preventive medicine sometimes appear to have made little, if any, progress. We are reminded of the wealth of investigation devoted to the problems of tuberculosis, while the disease is still with us. All the many cancer research institutes throughout the world, so the pessimist argues, have not decreased the incidence of the malady. Yet there are so many instances of great progress that one can easily recover courage and strengthen conviction through the mere enumeration of some of them. Against smallpox and yellow fever, the great victory has been sustained. Our latest annual summary of typhoid death rates in the large cities of the United States[2] shows a continuance of the typhoid decline which has been so striking a factor of the epidemiology of the disease for the last twelve years.

We have already remarked that the condition in the larger cities for the most part may now be regarded with pride instead of being pointed to with obloquy as awful examples. However forceful exhaustive statistics may be, they sometimes do not impress the individual so directly as the perhaps less accurate data derived from a smaller range that comes within his personal observation. As an illustration of the changing health conditions in our American communities, we may cite an interesting personal experience recently recounted by a physician in one of the Southern states.[3] Here is the striking testimony:

> During the five summer months of 1909, I saw 158 town patients. During the same period of 1922, I saw 202 town patients. Of the 158 patients seen in 1909, ninety-six had well-defined cases of malaria, with chill, fever, sweats, etc.; fifteen had cholera infantum ileocolitis, or dysentery, with two deaths, and seven had typhoid fever, making a total of 108 out of 158 that should have been prevented. During the five summer months of 1922, I did not have in town a single typical case of malaria, typhoid fever or cholera infantum. I had one atypical case of malaria that was most probably contracted out of town. I had only one case of ileocolitis that lasted over five days, and this was the only case of dysentery or infectious diarrhea in town this summer. There has not been a case of typhoid fever since February, 1919. Malaria, typhoid and infantile diarrhea have about disappeared.

Nor does this tell the entire story. Hookworm disease has been controlled in that community, and people once "sallow, anemic, sick and thin" have become "healthy, prosperous and happy." Here is the record of a community in which some one or, rather, many who had both courage and the conviction of their hygienic precepts have labored, and not in vain. Who shall say that health is not a purchasable commodity?

PROPOSED TESTS FOR FATIGUE

There is obvious wisdom in the belief that any activity in which the human body plays so large a part as it does in industry must be organized on a physiologic basis before the highest degree of efficiency can be secured. During the World War, at a time when the most or the best was expected of every citizen, Lee[4] reminded us that no factory mechanism approaches the human machine in its intricacy, the perfection of the correlation of its working parts, its combination of delicacy and strength, and its adaptability to the work required of it. None is so essential to industry. Nevertheless, as Lee has further pointed out, the present ways of handling the human machine are empiric and crude. Experience has taught most industrial managers what they believe to be the proper ways of dealing with the workers, and experience is conceived to be the best guide. The thought that the worker is a physiologic mechanism and should be treated as such, that the problem of the worker is a physiologic problem, is regarded as academic, fit for the laboratory, but not "practical" enough for the factory.

Every one realizes that the foremost limiting factor in work is fatigue, the antidote to which is rest. Incidentally, the condition of personal health is of great

1. Williams, J. L.: Personal Hygiene Applied, Philadelphia, W. B. Saunders Company, 1922, p. 351.
2. Typhoid in the Large Cities of the United States in 1922, J. A. M. A. **80**: 691 (March 10) 1923.
3. Bagby, B. B.: Changes in a Small Town Brought About by the Health Department, Pub. Health Rep. **38**: 456 (March 9) 1923.
4. Lee, F. S.: The Human Machine and Industrial Efficiency, New York, Longmans, Green & Co., 1918.

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SATURDAY, APRIL 7, 1923

SOME MISCONCEPTIONS ABOUT HYPERTENSION AND DIET

The study of some of the chapters of medical history are singularly illuminating, in that they show a steady progress, from time to time, in the direction of more adequate and dependable knowledge. This is true, for example, of the story of our information regarding the cause and treatment of some of the infectious diseases. The successive pages have usually disclosed additions to the sum of what was known before; but there are other fields of medical interest in which the years have not brought a gradual increment of understanding in the same way. In some of these, one will find that history presents a succession of dogmatic views, each replaced in turn by some other conception, supported more strongly by the confidence of its advocates than by the validity of objective evidence. Perhaps there is no serious injustice in saying that these comments apply in considerable measure to the problem of hypertension.

A few years ago, the dietotherapy of high blood pressure was directed to the exclusion of purin foods and alcohol from the regimen of the patient. When the purins with their end-product uric acid lost some of the terror with which they seized the clinician of the end of the last century, the dietary caution was extended to include high protein foods, with special emphasis on those of animal origin. Subsequently, the consideration of focal infections as a possible etiologic factor diverted attention somewhat from the diet in cases of hypertension; but, lately, therapeutic success has been made to correspond with restriction in salt intake. What the next fashion in dietary proscription will be remains to be learned. There are lipoids and vitamins and carbohydrates still left in the list of possibilities.

Most of the considerations involved in the foregoing proposals for the management of arterial hypertension hark back to a not very distant period when this symptom was assumed to be a sequence to arteriosclerosis and chronic nephritis. The overindulgence in purins and proteins was believed to lead to these degenerative conditions in the blood vessels and kidneys. Of late, however, a critical consideration of the accumulating evidence is leading to the conclusion that certain types of high blood pressure—the so-called essential hypertension—may occur independent of the arterial disease or demonstrable lesions of the cardiovascular and renal systems. As a recent writer has indicated, the fact that patients with essential hypertension may later in life develop cardiorenal complications affords no justification for the conclusion that the primary cause of the high blood pressure lies in the organ or organs which secondarily show evidence of disease. He reminds us that a study of histories of patients, and careful continuous clinical observation, will reveal many patients with hypertension of fairly high grade and yet with no evidence of myocardial degeneration, arterial change or disturbance in kidney function. Furthermore, Moschcowitz has brought forward evidence—experimental and clinical—suggesting, if not actually proving, that, even in cases of frank nephritis, hypertension may be the earliest demonstrable symptom.

In consequence of such views, some writers are beginning to feel a hesitancy in connecting arterial hypertension in any way with the metabolism of nephritis. At any rate, there are numerous calorimetric studies which lead to the conclusion that the utilization of protein proceeds in the usual manner even in nephritis, in the majority of cases, at least. Sir Clifford Allbutt has denied the alleged remedial effects of the purin-free regimen. And Mosenthal [1] feels convinced that a low protein diet is not effective in lowering blood pressure or a high protein diet in raising it, judging by the effects observed in suitable patients over a period of weeks. Benedict has noted that the underfeeding of healthy persons for some time, so that reduction in weight ensues, is followed by decrease in metabolism and a lowering of blood pressure. But, as Mosenthal has remarked, such phenomena are likely to be the expression of a depression of vitality and efficiency that is of the general state of the person concerned, rather than the specific result of a low protein intake.

Most recently, Strouse and Kelman [2] have studied carefully the effect of diet on patients with hypertension and with varying degrees of damage to the cardiovascular or renal systems. Even when no impairment of renal function was detectable there were marked variations in blood pressure; and the latter bore no relation to the intake of protein food. In cases of frank progressive nephritis with hypertension, a diminution of protein intake sufficient markedly to lower the figures for blood nonprotein nitrogen and urea did not cause lowering of the blood pressure. Strouse and

1. Mosenthal, H. O., in Barker's Endocrinology and Metabolism, 1922.
2. Strouse, Solomon, and Kelman, Sarah R.: Protein Feeding and High Blood Pressure, Arch. Int. Med. **31**: 151 (Feb.) 1923.

Thus, one may go on and on through the whole of this distinguished book, finding on every page living phrases which cry again and again the great call of human despair. As an army surgeon, Georges Duhamel partook of the suffering of every patient whom he served; and, passing with them through their travail, he wrote an immortal record. He expresses the most profound philosophy in that simple expression which is the greatest eloquence. A final quotation:

> To make up one's mind to die is to take a certain resolution, in the hope of becoming quieter, calmer, and less unhappy. The man who makes up his mind to die severs a good many ties, and indeed actually dies to some extent.

THE UNDETERMINED NITROGENOUS COMPOUNDS OF THE URINE

Analysts who have dealt exhaustively with chemical examination of the blood and urine have long frankly recognized their inability to identify all the components normally present. In the case of the nitrogenous components, the unrecognized fraction is frequently referred to as "undetermined nitrogen." There has been much speculation concerning the nature of the substances represented. Although amino-acids are continually circulating in the blood and sometimes escape into the urine, there is little evidence for the occurrence of any noteworthy amounts of these protein fragments in the fluid secreted by the kidneys under normal conditions. The urine usually contains a small amount of colloidal nitrogenous material, not protein, which is said to be increased in certain types of malignant disease. In 1897, Bondzynski and Gottlieb of Heidelberg reported that they had determined the existence of a group of protein derivatives containing both nitrogen and sulphur, and apparently of high molecular structure. The substances seemed to be characterized by an acid nature, and received the name "oxyproteic acids." Since then, numerous investigators have attempted to differentiate what they have assumed to be a variety of more or less related nitrogenous compounds belonging to this category, with the result that the literature has become enriched with a number of newly coined terms, such as alloxyproteic acid, antoxyproteic acid, and uroferric acid—formidable words, if nothing more. Even the precursor of the urinary pigment urochrome has been considered to be related chemically to the oxyproteic acids. Some writers have been inclined to regard them as incompletely oxidized polypeptids or complexes of amino-acids which have escaped destruction in the processes of metabolism. A renewed investigation by Edlbacher [1] in the physiologic institute at Heidelberg makes untenable much of the earlier hypothesis with respect to the so-called oxyproteic acids. It has long been recognized that they give none of the identifying reactions of simple proteins. Those urinary products which he has examined critically are now shown to yield, at best, no more than traces of characteristic amino-acids. On the other hand, it is surprising to learn from Edlbacher's studies that some, at least, of the oxyproteic acids yield considerable urea by simple chemical manipulation. Perhaps a new urea derivative characteristic of urine will presently be discovered. Such a possibility has occasionally been discussed in the past. As Fürth of Vienna wrote a few years ago, it will probably be a long time before the misty atmosphere at present enveloping these subjects, and, in fact, covering them as in thick clouds, will be dissipated. However, even here there is beginning to be a little more light.

1. Edlbacher, S.: Ueber die Proteinsäuren des Harns, I, Die Oxyproteinsäure, Ztschr. f. physiol. Chem. **120**: 71, 1922.

ALCOHOL AND DISEASE

Since the debate regarding the prohibition of the manufacture and sale of alcoholic beverages has hinged largely on the scientific aspects of the liquor problem, every pronouncement on the subject is awaited with interest. Recently a statistical report regarding the possible influence of alcohol on the prognosis of pneumonia in a large municipal hospital was published in THE JOURNAL.[1] The data for nearly 3,500 cases of lobar pneumonia showed, with reference to the patients' habits of indulgence in alcoholic drinks, that the mortality was higher in moderate users than in light users or abstainers, and that the mortality in excessive users was much higher than in moderate users. It seems important to define the limits of interpretations to be made from these data. The investigators themselves insisted that their findings demonstrate only what a harmful effect the use of alcohol may have on the course of a disease. They have no bearing on the question whether legislation has or has not diminished the prevalence of drinking. In commenting on the paper referred to, a prominent newspaper pointed out further that the statistics have no bearing on the possible use of alcohol in therapy. It cannot be too strongly emphasized or too frequently reiterated that alcohol, like many drugs, may have a usefulness in medicine which by no means justifies the assumption that it is of equal value in dietetics. Strychnin is recognized as a helpful drug and also as a deadly poison. Hydrochloric acid can act as a violent corrosive; it may also facilitate gastric digestion. The contradictions are in the statements of persons, and not in the facts of science.

1. Capps, J. A., and Coleman, G. H.: Influence of Alcohol on Prognosis of Pneumonia in Cook County Hospital, J. A. M. A. **80**: 750 (March 17) 1923.

THE EMERGENCY FUNCTION OF THE SUPRARENALS

The hope that, with the discovery of an "active principle" in the suprarenal tissues, the physiologic function of these structures would be speedily elucidated has not justified itself. Despite the profound pharmacologic potency of epinephrin, it has not been possible to demonstrate conclusively that this "hormone" plays an important part in the every-day performances of the living organism. At any rate, the thesis that the secretion of epinephrin into the circulation is the determining factor in the maintenance of vigorous blood pressure has not substantiated itself, so that the suprarenal glands cannot be looked on as the preeminent regulators of vasomotor tone. Some

importance in the readiness with which fatigue ensues; and, conversely, some persons believe, with Sir James Paget, that fatigue has a larger share in the promotion or transmission of disease than has any other single causal condition. The admittedly important study of the phenomena of fatigue hinges on the availability of suitable methods of investigation. Fatigue must be detected with assurance and measured with some approach to reliability, if it is to be accepted as an index of bodily fitness, and if physical performance is to be gaged in accordance with its dictates.

Within recent years, a considerable number of physical tests have been proposed as indicators of fatigue in human beings. Some of them, which have found useful application in furnishing evidence of the changes in physiologic "fitness" attending pathologic states or exertion under extreme conditions of environment, have been referred to from time to time in these columns. There can be little doubt of the importance of having a procedure like Martin's "resistance strength test" or "spring balance muscle test" for measuring the muscular impairment in such conditions as infantile paralysis. It is one thing, however, to detect pronounced physical deterioration, and another to measure physical fatigue resulting from the usual routine of healthy work. In connection with the latter, Lee and Vanbuskirk [5] of Columbia University have failed to find a reliable criterion of the daily physical fatigue of the individual in any of the tests heretofore proposed. The cardiovascular reactions depended on in the Crampton and Schneider tests fail when applied to ordinary strenuous exertion, however useful they may be in indicating the deterioration associated with disease, drugs or overwork. The human electrocardiogram likewise fails to reveal changes due to such exercise as walks of 14 miles entail in untrained persons. The vascular skin reaction was undependable in healthy persons, as were the respiratory observations employed in detecting incipient stages in the breakdown of aviators suffering under the stress of flying.

The preservation of normal functions and reactions in healthy persons, despite ordinary vigorous exercise, speaks eloquently of the factors of safety in the human body. As Lee and Vanbuskirk point out, the cardiovascular system, serving as it does the needs of the whole body, ought, in the interests of the organism, to maintain its efficiency and its capacity for work unimpaired as long as it is possible. Observations show that this indispensable condition is maintained, even after strenuous demands are made on this physiologic system. It is sensitive, and constantly reacts to a host of intrinsic and extrinsic influences. When these reactions are persistent and leave a continuing impress, they may be detected by appropriate tests; and here some of the tests that have been used appear to have proved practicable and valuable. But in the ordinary affairs of life, the reactions are temporary and fleeting. It may therefore be futile, as the Columbia physiologists actually imply, to search among the physical manifestations of cardiovascular phenomena for an objective test for daily fatigue. If this is true, the findings of abnormalities by the current methods should gain all the more importance from the standpoint of their possible clinical usefulness.

5. Lee, F. S., and Vanbuskirk, J. D.: An Examination of Certain Proposed Tests for Fatigue, Am. J. Physiol. **63**: 185 (Jan.) 1923.

Current Comment

A FRENCH SURGEON TURNS LITTERATEUR

Georges Duhamel, doctor of medicine, winner of the famous Goncourt prize in literature, is 38 years old. Before the Great War he was a physician; during the war he wrote "The New Book of Martyrs" and "Civilization"; today he is a writer with a world audience, for he interprets life as only a physician can see it, and he writes with the tone of the great artist. His human compassion seems endless. As Malcolm Cowley expresses it in an essay in the current *Bookman*, Duhamel studied science because of his passion for the truth, but it was human pity that made him a writer. Consider with the point of view of the physician the following phrases from the first named book of sketches:

> Lerondeau has good strong teeth. Carré has nothing but black stumps. This distresses me, for a man with a fractured thigh needs good teeth. [Then comes a brief description of the dying man.] I look at the ash, the smoke, the yellow, emaciated face, and reflect sadly that it is not enough to have the will to live; one must have teeth.

Many a scientific treatise resulting from the experiences of war surgeons has taken thousands of words to say the same thing. Again:

> Each sufferer has his characteristic cry when the dressing is going on. The poor have only one, a simple cry that does service for them all. It makes one think of the women who, when they are bringing a child into the world, repeat, at every pain, the one complaint they have adopted.

Who but a physician could have made this observation, and who but a Duhamel could have so well expressed it? Consider also these phrases:

> It was fortunate that Carré brought such a stock of courage into the hospital, for he needs it all. Successive operations and dressings make large drafts upon the most generous supplies.
>
> And tomorrow, and for many days after, Carré will have to be constantly calling up those reserves of the soul which help the body to suffer while it waits for the good offices of Nature.
>
> The swimmer adrift on the open seas measures his strength and strives with all his muscles to keep himself afloat. But what is he to do when there is no land on the horizon, and none beyond it?
>
> While I am adjusting the new trough, a solid comfortable one, but rather different in appearance, he casts an eloquent glance at the discarded one, and his eyes fill with copious tears. The change is a small matter; but in the lives of the sick, there are no small things.
>
> Tricot had suffered greatly; only some fragments of his hands remained; but above all, he had a great opening in his side, a kind of fetid mouth, through which the will to live seemed to evaporate.

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE, PUBLIC HEALTH AND HOSPITALS

Held in Chicago, March 5, 6 and 7, 1923

(Continued from page 929)

TUESDAY, MARCH 6—MORNING

MEDICAL EDUCATION

DR. CHARLES P. EMERSON, Indianapolis, President of the Association of American Medical Colleges, in the Chair

The Danger of the Stereotyped Curriculum

DR. CHARLES P. EMERSON, Indianapolis: We of the American universities have long been struggling to develop a standardized medical curriculum. Our student who, for illustration, earns fifteen semester hour credits in chemistry in one university can, if he changes schools, be credited with this number of hours in that subject in almost any other university of equal rank in the country. But here the analogy ceases, for we have developed a much too stereotyped curriculum, and it is this which is hampering the satisfactory evolution of medical education. This is in part the fault of our state medical boards, which in one examination try to test a recent graduate's ability in every possible medical subject; but more it is the rivalry of our special departments, all of which demand an opportunity to meet the medical students; and still more it has been due to a conservative tendency to hold all we have as we add still more courses, with the result that our curriculum is so overcrowded that to reach a minimum in each subject takes so much time that there is no chance to reach a maximum in any.

While it may be true that our medical students are better able on graduation than those of other countries who begin at once the practice of medicine, it may also be true that they are less able to keep abreast, year by year, of their profession. The stream of medical advance flows swiftly; can our students swim? Will this current, as in the past, carry them to medical worlds greatly unlike those in which they learned their medicine? Will they be able to grow and to accept new and strange ideas? What is more important, will they accept the responsibilities and the leadership which this progress imposes on them? For illustration: the young practitioners of 1885 were taught to pay strict attention to practice and to avoid publicity, and the laboratory men were eagerly advancing the new science of bacteriology. Neither felt any responsibility for the well public. "Let the quack make public lectures," they said. They would prove their ethical "regularity" by avoiding all such advertising. But the next few decades proved that these laboratry discoveries were of the greatest value to the public, for of them public health and preventive medicine were born, and it became the duty and privilege of the best medical men to lead in the education of the public, to struggle for better public utilities, better laws, etc., in order that the public might benefit by what was their right; for there is the general truth that to whom much is entrusted, of him, also, much shall be required.

Our curriculum is overcrowded, and it contains so many subjects that only a minimum can be required in each. We touch the high points of all the specialties, and our students learn some of the tricks of therapy in each. They give a good account of themselves for the first few years out of school, but unless they mastered the fundamental clinical branches, they do not grow with their subjects, but cling to the medicine with which they were graduated and even fight for legislation to prevent its further modification.

The inadequate preparation of our graduates is proved also by the quality of our postgraduate schools, the most of which are not postgraduate at all in the sense that their courses are built on those of the undergraduate years and carry the student to still higher professional levels, but are for the most part designed to bring the graduate of a few years ago up to the level of the undergraduate of today or to allow the practitioner to change his field of activity to some other specialty.

We would urge a curriculum containing three main clinical subjects: medicine, general surgery and obstetrics. We would double the time allotted to these, and in addition would allow the student the right to elect perhaps one specialty; we would urge a vertical rather than a horizontal line between the laboratory and clinical subjects. The latter idea, popular in this country thirty years ago, was borrowed direct from Germany. During the middle of the nineteenth century, Germany made little progress in the sciences because of the paralyzed influence of her so-called naturphilosophie. Let us break away from the applied naturphilosophie of this century and train our students to study patients. Let us limit our curriculum to that which we can teach well; get away from the dangers of a stereotyped curriculum, and graduate boys who not only are well trained now, but who can keep always abreast of the times, and lead the public as well as their patients in paths of right living.

Present Ideals of the Physical Plant in Medical Education

DR. CHARLES R. BARDEEN, Madison, Wis.: This article will appear in full in THE JOURNAL.

DISCUSSION

DR. G. CANBY ROBINSON, Nashville, Tenn.: When Vanderbilt University received a large gift for the reorganization of its medical department, it seemed to us that we ought not to do the conventional thing, but to make some experiment if it gave promise of success. This change has been in the physical plant, the success of which will depend on the future. We hope we are making a contribution to the subject of medical education from the point of view of the physical plant.

One question was in regard to the location of the medical school. At present it is about two miles from the campus of the university, and we decided that it would be wiser to scrap or vacate the old buildings, and erect a new plant directly on the campus of the university, so that the medical school would be not only in direct continuity with the main Vanderbilt University, but also adjacent to or just across the road from a college for teachers, perhaps the best endowed teachers school in the South. We do not know what that may hold for us and for them in the future. At any rate, we hope very much that we may cooperate.

One of the deans reported yesterday that correlation was becoming the watchword of the day, as we used to hear so much about science for science's sake. We are all interested in correlation, and it is along this line that we are endeavoring to construct the new plant at Vanderbilt.

The idea of correlation is not confined to America. Embryo attempts at correlation are now embodied in the curriculum which for the last two years has been going through the German universities. It has been accepted by eighteen of the twenty-three German universities. They are placing students in the outpatient department during the first year as orderlies during the summer vacation. They feel that clinical work should begin early. One professor in Berlin spoke of it as the American plan, so that we are beginning to have some influence on German ideas of American education. They are much interested also in England and Scotland, as evidenced by a report of the Pathologic Society of Edinburgh two years ago.

In Holland they are building a new plant at Leyden which will cost fifteen million dollars when completed. They put pathology and bacteriology in the same building. In this country we are very definitely cooperative in spirit. Therefore, we shall have the opportunity and spirit of forging ahead along the lines we have been discussing in the last two days.

Vanderbilt University Medical School is not going to be an elaborate affair, as compared with the plants Dr. Bardeen has gone over, especially those plants showing extensive future development. We have attempted to bring the laboratories and hospitals in relation to one another. We hope to spend two and a half million dollars on the new plant. Vanderbilt University has eight million dollars for medical education, and we have done our best to keep the cost of equipment down. If we can do that, we will be able to manage with a minimum amount of money expended for equipment.

of the more recent writers have even gone so far as to deny to epinephrin any action comparable with that of a true "internal secretion," and to place it in the category of excretory substances without routine physiologic effects.[1] In this country there has been a lively debate as to whether epinephrin is an agent in the mobilization of energy in times of stress. The latest contribution to the subject from the University of Buffalo [2] supports the general conclusion that strong stimulation of many varieties—reactions such as are likely to rise in difficult situations or unusual environmental conditions—increases the discharge of epinephrin into the circulation. The evidence has been secured by observations of the reaction of the denervated iris, which Meltzer showed to be particularly sensitive to epinephrin. The responses elicited with various types of stimuli fail when the suprarenals are eliminated. The evidence for the "emergency" function of the suprarenals has been strengthened by these findings.

1. Gley, E.: Traité élémentaire de physiologie, Ed. 4, Paris, 1919, p. 661.
2. Hartman, F. A.; McCordock, H. A., and Loder, M. M.: Conditions Determining Adrenal Secretion, Am. J. Physiol. 64: 1 (March) 1923.

Association News

GRANTS FOR RESEARCH IN THERAPEUTICS

The Committee on Therapeutic Research of the Council on Pharmacy and Chemistry will consider applications for grants to assist research in subjects which, in the opinion of the committee, are of practical therapeutic interest to the medical profession, and which research might not otherwise be carried out because of lack of funds.

Requests should state the specific problem which is to be studied, the qualifications of the investigator, the facilities available to him, and, if work is to be undertaken in an established research institution, the name of the individual who will have general supervision. The committee will also appreciate offers from research workers to undertake investigations of questions which may be suggested by the Council.

Applications should be addressed to: Chairman, Therapeutic Research Committee, Council on Pharmacy and Chemistry, 535 North Dearborn Street, Chicago, Illinois.

THE SAN FRANCISCO SESSION

Indiana Special Train

Dr. Ralph S. Chappell, 305 Terminal Building, Indianapolis, has been delegated by the Indiana State Medical Association to arrange for a special train for the accommodation of members of that association, their families and friends who will go to San Francisco to attend the annual session of the Association, June 25-29. This train will be assembled at Indianapolis and will proceed to San Francisco by way of St. Louis, Kansas City, Colorado Springs, the Grand Canyon and Los Angeles. Dr. Chappell will give information concerning the details of the tour to those who are interested.

Woman's Auxiliary of the American Medical Association

The Woman's Auxiliary of the American Medical Association, through its president, Mrs. S. C. Red, 817 Caroline Street, Houston, Texas, extends an invitation to the wives of all the members and Fellows of the American Medical Association to join this organization and take part in the first annual meeting to be held in San Francisco, June 25-29. The Woman's Auxiliary was organized at St. Louis in 1922. It has for its purposes the extension of the aims of the medical profession, through the wives of physicians, to the various women's organizations which work to the advancement of health and education; to assist in the entertainment of those in attendance at medical conventions, and to promote acquaintanceship among physicians' families so that closer fellowship may exist. Any information that may be desired concerning the first meeting of the Woman's Auxiliary may be secured by writing Mrs. S. C. Red at the address given.

Associations of Alumni and Fraternities at San Francisco

The alumni of Jefferson Medical College in San Francisco are represented by a committee, which is arranging a program of entertainment for all visiting alumni of that institution during the annual session. The committee consists of Dr. W. P. Read, Flood Building, San Francisco; Dr. Claude A. Phelan, 760 Market Street, San Francisco, and Dr. Dudley Smith, Hutchinson Building, Oakland. Members of this committee will be glad to hear from Jefferson alumni in other parts of the country.

The Nu Sigma Nu Fraternity has arranged for a banquet to be held at the Bohemian Club at San Francisco, Thursday, June 28, at 7 o'clock. Dr. H. D. Crall, 1242 A-2d Avenue, San Francisco, will be in charge of arrangements for this banquet. Any members of the Nu Sigma Nu Fraternity who wish to attend should write to Dr. Crall.

Dr. Harry E. Alderson, chairman of the Committee on Entertainment, 806 Balboa Building, San Francisco, asks that members and Fellows of alumnus associations and medical fraternities send suggestions to him as to dinners or other meetings that they may wish to have arranged for during the annual session.

Official Transportation Representative

Dr. W. E. Musgrave, chairman of the Local Committee of Arrangements, San Francisco, announces that the American Express Company has been designated official transportation representative for that committee. This company has offices in all principal cities and is in close touch with all steamship, railroad and other transportation agencies. Their offices are in position to answer all inquiries and furnish information about any contemplated trip. In San Francisco, the American Express Company is located on the ground floor of the Balboa Building, in which the Local Committee of Arrangements has its headquarters. A branch office will be maintained at the Civic Auditorium during the week of the annual session.

An Invitation from the Pacific Northwest Medical Association

The Pacific Northwest Medical Association, through its president, Dr. J. Earl Else, 709 Stevens Building, Portland, Ore., extends a very cordial invitation to eastern physicians to visit the meeting of that association to be held in Seattle, June 19-21. The Pacific Northwest Medical Association embraces within its membership physicians of Montana, Utah, Idaho, Oregon and Washington, and the provinces of British Columbia, Alberta and Saskatchewan.

Northern Pacific Railway Special Train

The Northern Pacific Railway will operate a special train for the accommodation of visitors to the annual session who wish to return by way of the Pacific Northwest. The tour will be conducted personally by Dr. A. W. Ide of St. Paul. The train will be designated the "M.D. Special," and will leave San Francisco at 10:20 p. m., June 29, for Portland, where a day will be spent. Seattle, Tacoma, Rainier National Park, Spokane, Livingston and Yellowstone Park will be visited. From Portland, Seattle, Tacoma and Gardiner, trips will be taken for the purpose of visiting the points of scenic and historical interest. About two days will be spent in Rainier National Park, and three days will be spent in Yellowstone Park. The train will leave Gardiner at 7:30 p. m., July 10, and will arrive in Chicago at 9 p. m., July 12. Full particulars about this train and all stops and side trips may be secured by writing to Dr. A. W. Ide, 914 Northern Pacific Building, St. Paul, Minn.

observations on the effects of the drug. That nice balance and discrimination which must be arrived at in the administration of digitalis means success or failure.

In our eagerness to teach scientific diagnostic methods based on laboratory examinations, we forget to study the daily life of the patient, his history, his environment, his relations to his fellows. Owing to overreliance on laboratory diagnostic methods, there is often slighted the bedside examination made with the full confidence of the patient and with his entire cooperation. One may justly fear for the future of medical practice with the apparent unthinking attitude of many of our graduates. They fail to look squarely at the patient. An appalling number of roentgen-ray examinations and laboratory tests on secretions, excretions and blood are made, together with examinations by specialists, and as a result the patient is told that he is physically sound, that there is nothing the matter, and that he may proceed to his home and forget his troubles—all this at a total fee for specialists and others that is often a serious factor. The fact remains that the patient is sick. He needs help and, because of the failure of the physician, he drifts into the welcoming arms of the theatrical healer. That functional disease is a distinct entity cannot be gainsaid. It destroys the efficiency of the individual, and renders him a burden to himself, his family and his friends, and the trained physician, conversant with every detail of modern medicine, too often fails to look squarely at his patient and recognize the disease. As a result of our training, a graduate is in a sense helpless, unless he is in immediate touch with a large laboratory, manned by skilled technicians. We have trained away from self-reliance, from accurate observation, owing to the sense of security and dependence created by the laboratory. It has shown the easy way to diagnosis. Present methods have had the effect of crowding graduates into the cities, where splendidly equipped laboratories, hospitals and expert consultants are immediately available. The very multiplicity of precision determinations constitutes a weakness. Too little do we teach that the patient is not made up alone of tissue structures but is a personality functioning in a given environment. Too often, hospital, outpatient and even office practice becomes a mere routine, and the attending physician fails to remember that every case represents a human heart, crushed to the point of despair by sickness and resultant poverty.

The cultivation of a bedside manner may, in the extreme, be an affectation; but personality and the attitude of the physician may mean the difference between life and death. To inspire groundless hope in a patient is criminal; but to give the patient a sense of your appreciation of his suffering, your hope for ultimate relief, and the feeling that you will do all that is possible, is but a natural justifiable and humane attitude. How much of all this does the student get in the medical curriculum or during his intern service? How coldly callous do many of our brilliant graduates appear? Modern graduates may wonder why the citizens of a community remain faithful to the "old fogey" doctor, as the old practitioner is termed, when they, with modern training and equipment, have so much to offer. A study of the methods of the old doctor and the application of many of them would mean greater success for the recent graduate. The apotheosis of pure science must give way to the larger conception of the conscientious care of the sick, and science for science's sake assume its most important but proper place. Evaluate pure science fairly, evaluate research sanely, and emphasize the skilful management of the sick individual. Teach those principles calculated to relieve human suffering. Stress the service side of the physician's job. Modern medicine must be the applications of science at the bedside—science so applied that every factor tending to restore the individual to a normal regimen of life shall be utilized. Science is the armament of the physician; and his skill in the use of this armament in overcoming disease reflects his training and his attitude toward his fellow man. Medicine must maintain its superstructure of service as its foundation of science. "Knowledge is proud that he knows so much. Wisdom is humble that he knows no more."

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Chiropractor Sentenced.—It is reported that H. C. Saunders, a chiropractor of Huntington Beach, was sentenced to four months in the Orange County jail by Judge Works, recently, for practicing medicine without a license.

The Physique of Mentally Superior Children.—Drs. B. T. Baldwin of the University of Iowa, Iowa City, and L. L. Terman of Sanford University, San Francisco began, March 20, an investigation of 1,000 mentally superior children in California to determine the relation between physical growth and mental development. Detailed measurements of each child will be made. The investigation is being financed by the Commonwealth Fund of New York.

Hospital News.—Work has been started on a new $100,000 ward unit at the Santa Clara County Hospital at San Jose. It will contain fifty beds.——Plans have been prepared for the new eight-story and basement hospital building for the St. Vincent Hospital Association, Los Angeles, to be erected at a cost of $1,250,000. The building will be of Spanish design and will contain 300 beds.——Formal opening of the U. S. Veterans' Hospital No. 24, Palo Alto, took place, March 12. This institution comprises nine buildings, having a capacity of 515 beds.

CONNECTICUT

Maternity and Child Welfare Conferences.—In cooperation with local physicians, the bureau of child hygiene of the state department of health is holding a series of maternity and child welfare conferences in counties of the state where the infant mortality rate is highest. Exhibitions will be given in the afternoon, at which model rooms will be displayed, home care by the public health nurse demonstrated, and a "well baby" conference held. Literature on communicable diseases and the care of mothers and children will be distributed, and evening lectures with stereopticon views bearing on maternal and child hygiene given.

DISTRICT OF COLUMBIA

Board of Trade Opposes Antivivisection.—The Board of Trade, Washington, went on record, March 22, as unanimously opposing any legislation designed to restrict the use of animals for experimentation.

Statistician Dies.—Richard Corcoran Lappin, for many years chief of the bureau of vital statistics of the bureau of the census at Washington, died, March 18. Mr. Lappin served as secretary of the vital statistics section of the American Public Health Association. His name is well known to the medical profession in connection with the annual vital statistics reports, the "Monograph on Cancer and Other Malignant Tumors in the United States," and the "Standard Nomenclature of Disease and Pathological Conditions, Injuries and Poisonings."

ILLINOIS

Physicians Close Offices in Afternoons.—Physicians of Decatur will close their offices every Thursday afternoon between May 1 and November 1, in accordance with a vote taken, March 14, which was later confirmed at the regular monthly meeting of the Decatur Medical Association.

Personal.—Dr. Louise H. Keator, Polo, has been appointed physician at the Dixon State Hospital for Epileptics, Dixon. ——Dr. Oliver B. Simon, city health officer of Batavia, and his wife were seriously injured, March 21, when the automobile in which they were riding was struck by a train.

Addition to St. John's Hospital Completed.—The new 100 bed maternity addition to St. John's Hospital, Springfield, erected at a cost of $250,000, is completed, and will be ready for occupancy this month. This gives St. John's Hospital a capacity of 520 beds, exclusive of the tuberculosis sanatorium at Riverton, which has 200 beds.

DR. A. C. ABBOTT, Philadelphia: I should like to know whether any provision has been made for the teaching of public health.

DR. G. CANBY ROBINSON, Nashville, Tenn.: There is a series of rooms that are set aside for the teaching of hygiene and public health. There are three or four rooms which will be available for laboratory purposes, where public health, preventive medicine and hygiene are to be taught. These rooms are on the same floor as the department of clinical pathology.

DR. E. P. LYON, Minneapolis: I want to express sympathy with all that has been said here in a general way, but we can easily overdo in this direction as we have in the opposite direction. Our whole effort should be to keep a sane balance and to go forward carefully, and reasonably slowly. The water tight compartment is a very valuable feature in unification, although we would not advocate an absolute water tight compartment in education—the mind is not built on the principle of a water tight compartment. There is some tendency on the part of those who take extreme views to substitute another water tight compartment in which the diaphragm or neck, instead of being the boundary, is now put between the preclinical sciences and clinical sciences. I see as much danger in the one as in the other. One speaker who presented a paper yesterday left out physics, chemistry and biology as departments which were all to be affected by the relations of the clinical department, and I wondered why that was so. When a student is studying electricity, it would be considered of additional interest and advantage if the electrocardiograph was introduced and he was taught the applications that can be made of that instrument, and if he saw a few patients with heart disease and noted the changes in the records produced under those conditions. In studying physics and light, the student would be interested if the ophthalmologist demonstrated the anomalies of refraction. In the course in general chemistry, when calcium is taken up, it would be a great advantage for the student to know that calcium is a part of the constituent of bone and to have bones demonstrated to him, etc. I will not dwell on the practical difficulties which one would find if we should attempt to carry out an extreme scheme. Let us take biologic chemistry. Imagine what would happen if we should attempt to have four classes in the laboratories. An enormous equipment would be necessary which none of us would be willing to stand for, or we must have lockers for the whole four classes, and the practical aspect will make one hesitate and go slowly.

DR. ARTHUR DEAN BEVAN, Chicago: I think it might be helpful in this discussion if I present a brief summary of the ideas of a medical educator with a great deal of experience and very sound judgment, Dr. Charles H. Frazier of Philadelphia, who is absent on account of illness:

"At Pennsylvania we are so impressed with the advantages of early contact with clinical problems that we have introduced clinics into both the first and second years. On the question of correlation I feel very strongly. After all, the instruction given the student in the fundamental sciences, anatomy, physiology, chemistry and pathology, is selected with a view to its application to clinical problems. I am not in sympathy with the plan that crept into our educational program, by which these sciences were presented abstractly. If there are clinical applications to the laboratory phenomena, why should not this application be demonstrated synchronously with the laboratory demonstration? Let me cite an example: There are a number of demonstrations in the laboratory to illustrate shock; would the practical importance of these scientific laws not make a deeper impression on the student if, at the time, he were taken to the hospital to see shock in the patient and the treatment of it? Or let the subject be hemorrhage. The student makes a number of observations on the lower animals as to the effect of loss of blood, the constitutional effect on the animal, the change in the blood picture, etc. How telling these observations would be if, at their conclusion, the students were taken to the bedside of a patient, the subject of an acute or chronic anemia, observed the clinical aspects, and saw the influence of a blood transfusion. This dovetailing method might be applied to bacteriology, pathology and physiology.

"Instruction in a specialty should be restricted to the diagnosis of the more common lesions, emphasizing those which are an expression of systemic disease and those which, because of their grave potentialities and need for immediate treatment, require prompt recognition. To the postgraduate schools should be left the comprehensive study of any specialty.

"Surgery should be catalogued as a major specialty and, except for certain emergency operations, the student should not be burdened with the details of operative technic. He should know the significance of gallbladder disease and what may be accomplished by surgical intervention, but nothing more.

"As to how the medical student should be taught, speaking for the clinical subjects, I would urge the reduction to a minimum of didactic lectures and the expansion of the clinical program. To plan an ideal curriculum, we should wipe the slate clean and rebuild the curriculum without the handicap of any preexisting practices."

DR. WILLIAM DARRACH, New York: With reference to ideals of plants, no one will dispute the statement that the brain needs a compartment of its own. We also need the great clinical associates, the peripheral nervous system and general circulatory system to work in active cooperation in carrying on the work of the parent body. If we can apply this to the physical plant we shall have taken a great step in advance, as aptly illustrated in the plants for Vanderbilt and Rochester universities. We also have to take into account certain personal tendencies on the part of human beings. Department heads must have places in which to work so that they are disturbed as little as possible. There also seems to be an inherent quality that human nature will not travel very far in a horizontal direction if it can avoid it. We seem to have approached a happy solution in the Vanderbilt and Rochester plants, where the different clinical and laboratory departments are brought into potential contact, which can be taken advantage of if need be, and isolation can be taken advantage of if the desire is in that direction.

At the Bellevue Hospital, New York, we have tried to reduce the horizontal distance to that distance which men will travel if they desire contact, and at the same time make use of the vertical direction whereby all departments can be brought into potential elevator contact in a short time.

The Art of Medicine

DR. IRVING S. CUTTER, Omaha: During the last decade, it has become a rather popular diversion among too many of our teachers of medicine and surgery to decry the "art" or the methods of applying the fundamental facts of science to the relief of the sick individual. The abrupt dismissal of the usefulness of such teaching is startling and disconcerting.

Are those who are dealing directly with medical students, and who are largely responsible for the tendencies of the modern medical curriculum, keenly alive to deficiencies evident in the applications of science to practice? Are we so strenuously engaged in cramming the student with scientific facts—too frequently uncorrelated—that we defeat the fundamentals of education, namely, thought and the development of judgment? Are we compelling the student by precept or example in his undergraduate or intern years to form a proper concept of medical practice and of his relation to the public? It is easier to remember than it is to think, and to think to a logical conclusion is the most difficult of all. Reams of data may be gathered by the student, but until he is able to weigh the evidence, arrive at a safe conclusion and apply those conclusions to a given case, medical education falls short. To apply the science of medicine with the highest possible skill, the student must learn to think in terms of the patient. This can come only through thought and careful observation. We are too prone to bewilder the student in the heart clinic with the interpretation of electrocardiograms, when a proper evaluation of physical findings and the observation of a well correlated symptomatology would mean an accurate diagnosis, and make for a normal life for the patient. The student may know the pharmacologic action of digitalis, but, after all, the proper administration of digitalis must be determined by a careful study of the individual case, coupled with systematic

Dr. William H. Pound has been appointed sanitary superintendent of the health department of New York City. This was the position held by Dr. Monaghan before his appointment to succeed Dr. Copeland.

NORTH CAROLINA

Orthopedic Clinics.—Following a census of crippled children taken by the state board of charities and public welfare, orthopedic clinics are being held in various points in the state. The first of these was held in Wilmington, March 29, under the auspices of the State Orthopedic Hospital, with Dr. Oscar L. Miller, Gastonia, in charge. The state board of health has the names of more than 700 crippled children in North Carolina who need treatment.

OHIO

Physician Fined for Violating Narcotic Law.—It is reported that Dr. George E. Kerns, Galion, pleaded guilty to violation of the Harrison Narcotic Law, March 13, and was fined $100 and costs by Judge Glosser, at Crestline.

Chiropractors Fined.—Reports state that John Good, James A. King, E. A. Bellen and Frank Downing, chiropractors, all of Cincinnati, were fined $25 and costs, each, by Judge Bell, March 20, for practicing medicine without a license. They were granted ten days to appeal.

Hospital News.—William Cooper Proctor will erect a $500,000 hospital on Bethesda Avenue, Cincinnati, it is announced. —Contracts have been let for the new hospital building for Miami Medical College, Cincinnati, to be erected at a cost of $85,000.——The $150,000 addition to Middletown Hospital, Middletown, was formally opened, March 1.

OKLAHOMA

University Gets New Medical Building.—The Oklahoma legislature, March 29, voted an appropriation of $100,000 for a new medical building to be located on the University of Oklahoma campus, at Norman.

Senate Opposes Evolution.—The Oklahoma senate, March 27, according to report, voted 16 to 12 against the teaching of evolution in the public schools of that state. The leader of the opposition is said to have referred to the measure as a return to the twelfth century in thought and action.

PENNSYLVANIA

Dr. Thomas S. Blair Resigns.—Dr. T. S. Blair, Harrisburg, chief of the bureau of drug control of the Pennsylvania Department of Health, has resigned and will move to southern California. A joint meeting of the Harrisburg Academy of Medicine and the Dauphin County Medical Society was held, March 30, to honor Dr. Blair.

A New Ice Cream Law.—A new ice cream law, which became effective, March 20, prohibits the use of coconut fat and other foreign fats and oils in the manufacture of ice cream, and the use of paraffin in chocolate-coated ice cream. The clause legalizing the use of gum tragacanth in ice cream making is omitted from the new law, and the sale of any imitation or substitute for ice cream under any coined or trade name is prohibited. It further declares unlawful the selling of ice cream from any cabinet or container which contains any article except ice cream, as, for example, oysters or fish. Cream and its products will henceforth be the principal ingredients used in the manufacture of ice cream. The secretary of the state department of agriculture has appealed to ice cream manufacturers to cooperate with the bureau of foods in carrying the provisions of the law into effect.

Philadelphia

Physicians Petition to Change Compensation Law.—Twelve hundred physicians of Philadelphia, March 22, forwarded to the medical legislative conference of Pennsylvania petitions calling on the members of the legislature to amend the state workmen's compensation act to provide for payment of fees for surgical and medical treatment. The petitions were forwarded by the Philadelphia County Medical Society to Dr. George A. Knowles.

SOUTH CAROLINA

Hospital News.—The Mullins Hospital, Mullins, was completely destroyed by fire, March 8, at an estimated loss of more than $30,000. Drs. Lonnie M. McMillan and Frank L. Martin owned the institution.

SOUTH DAKOTA

Historical Society Honors Physician's Memory.—At its annual meeting in Pierre, the South Dakota Historical Society unveiled a portrait of Dr. Leonard C. Mead, in commemoration of his service to the state during his thirty years' work as superintendent of the State Hospital for the Insane, Yankton. Dr. Mead died in 1920.

VERMONT

Physician Loses Suit.—A verdict of $7,000 against Dr. Frank M. Walsh, St. Johnsbury, was rendered by a jury, March 16, in a suit for $23,000 brought by G. W. Cole, North Troy, for alleged malpractice.

VIRGINIA

Hospital News.—With the $250,000 bequest left the Danville General Hospital by the late John E. Hughes, it is planned to erect a new building. The present institution will be sold and a new site selected, it is reported.

WISCONSIN

Physician Fined.—It is reported that Dr. Frank D. Millard, Milwaukee, was found guilty by Judge Page recently of being involved in an illegal operation and was fined $500.

Free Clinics.—The fifth of a series of free chest clinics was held in Eau Claire, February 9, under the auspices of the Wisconsin Antituberculosis Association. Dr. A. A. Pelyte, Milwaukee, conducted the clinic, with the assistance of local physicians.——The first free clinic in Wisconsin, designed to give attention to orthopedic cases in rehabilitation work, was conducted at St. Mary's Hospital, Oshkosh, by Dr. Frederick J. Gaenslen, Milwaukee.

CANADA

Epidemic of Typhoid.—Reports state that one eighth of the population of Cochrane, a town in northern Ontario, has been stricken with typhoid fever, due to contaminated drinking water. Four hundred and fourteen cases have been reported, with three deaths.

Manitoba Medical Association.—At the annual meeting of the Manitoba Medical Association, held recently, the following officers were elected: president, Dr. Sidney J. S. Pierce, Brandon; vice presidents, Drs. David A. Stewart, Ninette, and Fortunat Lachance, Winnipeg, and secretary, Dr. Norman W. Warner, Winnipeg.

Dr. Klotz to Succeed Dr. MacKenzie.—Dr. Oskar Klotz, recently engaged in reorganizing the pathologic department of the University of Buenos Aires, under the direction of the Rockefeller Foundation, has been appointed to the chair of pathology of the University of Toronto Faculty of Medicine, left vacant by the death of Dr. John J. MacKenzie. Dr. Klotz was at one time director of the Magee Pathological Laboratory, Pittsburgh.

University News.—Application has been made to the Ontario legislature to amend the act of incorporation, changing the name of Western University Medical School, London, to the University of Western Ontario, the desire of the authorities being to make this university the educational center of the western part of the province.——Construction work on a new administration building for the University of Toronto, that will be erected south of Knox College, has been started. This building will provide accommodation for all the administrative offices.

GENERAL

Juvenile Suicides.—Dr. Harry M. Warren, president of the Save-a-Life League, in his annual report states that the total number of suicides tabulated for the year was 13,530, and that suicides among young people have practically doubled since the World War. From 477 juvenile suicides listed in 1919, the number increased in 1922 to 900.

Secretary of Interior to Visit Indians.—The Secretary of the Interior will make a trip in April through the Southwest to study problems affecting the Indians. Dr. Work is particularly interested in the improvement of health and sanitation among the Indians. He will be accompanied by Indian Commissioner Burke.

Appeal for Greek Refugees.—A letter has been sent out by the American Women's Hospitals of New York appealing

Chicago

Chicago Tuberculosis Institute.—The annual meeting and banquet of the Chicago Tuberculosis Institute, was held, March 26. Dr. Alice Hamilton, assistant professor of industrial medicine at Harvard University Medical School, Boston, was the principal speaker.

Illegal Practitioner Sentenced.—Reports state that Robert E. Parks, alias Treadwell, Chicago, was sentenced, March 30, to one year in the Bridewell, and fined $200 for practicing medicine without a license. Park, it is stated, obtained a job in the U. S. Veterans' Hospital No. 30 on a fake diploma purporting to show that he was a graduate of Rush Medical College, 1901.

Society News.—At the April 23 meeting of the Chicago Society of Internal Medicine Dr. Leonard G. Rowntree, Rochester, Minn., will speak on "Water Intoxication." Dr. Norman M. Keith, also of Rochester will speak on "Studies in Experimental Dehydration."——Dr. F. B. Moorehead of Chicago, gave an address before the Vermont State Dental Association in Burlington, recently.

Physicians Urged to Back Sanitary Canal.—A resolution was adopted by the Physicians' Fellowship Club, all members of which belong to the Chicago Medical Society, March 30, that an appeal be sent to members of the medical profession throughout Illinois, Wisconsin, Minnesota, Michigan and Indiana, to the state boards of health, and other public health welfare societies to back the sanitary district in its fight against reduction of the flow of water from Lake Michigan through the drainage canal.

INDIANA

Illegal Practitioner Fined.—It is reported that Luther C. Rhee, Elkhart, was fined $25 and costs in the superior court, March 19, when he pleaded guilty to a charge of practicing medicine without a license. A dissatisfied patient filed the complaint.

Physician Loses Malpractice Suit.—Delmar Clements, aged 16, obtained a judgment for $30,000 in the superior court of Tippecanoe County, March 16, it is reported, in his suit against Dr. John Stuart of Monon, alleging malpractice. It was stated that Dr. Stuart treated Clements for rheumatism when the boy was suffering from osteomyelitis arising from a dislocated hip, and that as a result the boy is permanently crippled.

Health Council Organized.—A permanent state health council was organized, March 21, in Indianapolis, by representatives of state organizations, engaged in some form of public health work. The health council will follow the lead of the Massachusetts State Health Council, organized last summer, for the purpose of coordinating all state health work under one head. The following organizations and agencies were represented: Indiana Parent Teachers' Association, the Child Welfare Association, Indiana Dental Society, the state industrial board, the medical department of Indiana University, the state federation of women's clubs, the Indiana Tuberculosis Association, the nursing bureau of tuberculosis and child hygiene, Indiana Medical Association, and the state board of health.

IOWA

Personal.—Dr. Frank W. Mills, Ottumwa, has been appointed county physician to succeed Dr. L. A. Hammer. ——Dr. George Donohoe has been reappointed superintendent of the Cherokee State Hospital.——Dr. John K. Kutnewsky has resigned as superintendent of the State Home and School for Feebleminded at Redfield.——Dr. Wilbur M. Walliker, Clinton, was shot and seriously injured by a patient, March 19.

MAINE

Medical Examiner Appointed.—Dr. Frank N. Whittier, Brunswick, has been appointed medical examiner for Cumberland County.

Joint Medical Meeting.—The annual meeting of the Maine Medical Association will be held in Houlton, June 5-7, in conjunction with the New Brunswick (Canada) Medical Society. Members of both societies will be guests of the Aroostook Medical Society at Fort Fairfield, Me., and the Carleton Medical Society at Woodstock, N. B., at banquets.

MICHIGAN

Plan for School Medical Inspections Changed.—The Detroit Department of Health has reorganized the medical inspection of schoolchildren. Formerly, each physician took charge of three or four schools and did all types of health work, including diagnosis, immunization, and physical examination. With forty or more physicians reporting a particular kind of work, it was impossible to compare one school with another. Under the new plan, one group of physicians does diagnostic work; another group does only immunization work, and a third group makes all of the physical examinations. During the school year 1921-1922, these physicians examined 58,000 children. Of 8,887 children underweight, nearly three fourths had one or more physical defects. It was found that Russian children had more eye defects than any other national group.

MISSISSIPPI

Physician Sentenced.—It is reported that Dr. Simon A. Miller, Jackson, was sentenced to serve five years in the penitentiary and to pay a fine of $2,000, in the federal circuit court, March 24, for violation of the Harrison Narcotic Law.

NEW JERSEY

Academy of Medicine Dedicates Auditorium.—The new auditorium of the Academy of Medicine of Northern New Jersey, at Newark, was formally dedicated, March 21, the twelfth anniversary of the organization of the academy. The auditorium has a seating capacity of about 400. Dr. George E. de Schweinitz, Philadelphia, President of the American Medical Association; Dr. John M. T. Finney, professor of surgery at Johns Hopkins University, Baltimore; Dr. James Hunter, Westville, president of the Medical Society of New Jersey, and Dr. Edward J. Ill, first president of the academy, addressed the audience. Dr. Henry J. Wallhauser was elected president of the academy for the ensuing year: Dr. Maurice Asher, vice president; Dr. William Petry, corresponding secretary, and Dr. Henry C. Barkhorn, treasurer.

NEW YORK

Bill for Medical Care of Schoolchildren.—A bill is before the legislature which would provide medical service for all pupils attending public schools in this state. Dental care and the service of trained and registered nurses would be included. A clause is appended, stating that nothing in this bill is to be construed as limiting the power of a parent or guardian to determine what treatment or correction should be provided and the agencies to be employed for that purpose.

New York City

Hospital Project Halts City Improvement.—A plan to widen Riverside Drive between One Hundred and Fifty-Eighth Street and Fort Washington Park, recently submitted to the board of estimate, has been referred back to Borough President Miller, because it would take about 27 per cent. of the property acquired by the Presbyterian Hospital and Columbia University for a medical center. Dr. Walter B. James presented the point of view of the university and hospital, showing that the plan for the park would materially interfere with the projected medical center. Mr. Miller has been instructed to try to coordinate the city's plans with those of the hospital.

Hospital News.—The Sydenham Hospital will erect a new eight-story building at One Hundred and Twenty-Fifth Street and Manhattan Avenue. Dr. Siegfried Wachsmann, formerly medical director of the Montefiore Hospital, and professor of clinical medicine at Columbia University, New York, has been appointed superintendent of the new institution.——Plans have been made for a $1,500,000 training school for nurses at Mount Sinai Hospital. The new structure will be the eighteenth building maintained and supervised by the institution. Half the cost has been promised by the trustees. The new school will accommodate 400 nurses, as against 220 housed by the present building. This announcement was made as a part of the annual report of the hospital, which showed that during 1922 the institution had expended $923,286, whereas the income was but $889,952.

Personal.—Mayor Hylan has appointed Dr. Aspinwall Judd as trustee of Bellevue and allied hospitals, to fill the vacancy made by the death of John G. O'Keefe.——Dr. Fridjof Nansen, head of the League of Nations' Commission for Russian Famine Relief, will open a commissariat in New York, affiliated with the American Committee for the Relief of Russian Children. Dr. Nansen's committee is concentrating on child feeding, medical supplies and the purchase of seeds, stock and farm machinery.——Dr. Joseph A. Blake, formerly chief surgeon of the American Hospital in Paris, has accepted the position of surgeon-in-chief of the Reconstruction Hospital, to succeed Dr. Charlton Wallace, who resigned recently.——

Eye and Ear Infirmary, $10,000 each, under the will of Mrs. Jemina Sinclair Simms.

Associated Jewish Charities, $18,000; United Charities, $10,000, and the Michael Reese Hospital, Chicago, $6,000, by the will of Adolph Nathan of Chicago.

Pennsylvania Missionary Society, $10,000; The Babies' Hospital Philadelphia, $10,000, by the will of William Thompson. One of the beneficiaries of the residuary estate plans to invest the funds for the benefit of the endowment fund of the University of Pennsylvania Hospital, Philadelphia.

Committee for Men Blinded in Battle, New York, $10,000, and St. Michael's and All Angels' Home for Colored Cripples, $5,000, by the will of Helen Smythe.

Goshen Hospital, Goshen, Ind., $10,000, by the will of Charles F. Kelly.

Touro Infirmary, New Orleans, $5,292, by E. V. Benjamin; $2,500 by Silvan Newgurger, and $1,000 by J. E. Bouden, Jr.

Long Island College Hospital, Brooklyn, Dr. Howard F. Whitney, $6,000; Mr. Van Sindereu, Mrs. Walter Gibb and Mrs. J. Rogers Mazwell, each $5,000; Mr. John F. Talmage, in memory of Dr. J. Sulivan Thorne, $3,000, and Frederick Loesser and Company, $1,000.

Fairview Sanatorium, New Lisbon, N. J., $3,000 for a modern roentgen-ray laboratory to be known as the Benjamin F. Rowland Memorial Laboratory, in memory of her husband, by Mrs. Mary A. Rowland, of Metuchen, Conn.

Montefiore Home, Beth Israel Hospital and the Hebrew Sheltering Society, New York, and the Consumptive Relief Society of Denver, each, $1,000; Home for Aged and Infirm Hebrews and the Jewish National Hospital for Consumptives, Denver, each $500, by the will of William S. Slater.

St. Luke's Methodist Episcopal Hospital, Dubuque, Iowa, $1,000 by the will of Anna Cook of Warsaw, Ind.

New York Academy of Medicine, his manuscripts and pamphlets on the history of medicine, by the will of Dr. Arpad Gerster of New York.

FOREIGN

Melbourne University.—The council of Melbourne (Australia) University has raised the fees in medicine from £23 per annum to £25 (approximately $120).——The new anatomy building will be ready for occupancy about July or August. The present anatomy buildings will afford additional housing facilities for the medical school library.——The university is about to adopt a superannuation plan for all full-time officers of every grade. Professors will be able to retire at the age of 60, and other officers at 65.

Personal.—Surg. Commander Thomas B. Shaw, bacteriologist at the Royal Naval Hospital, Plymouth, has been appointed professor of hygiene and director of medical studies at the Naval Medical School at the Royal Naval College, Greenwich, to succeed Surg. Capt. Reginald Bond. ——Sir Joseph J. Thomson, master of Trinity College, Cambridge; Prof. Frederick G. Donnan of the University of London, and James C. Irvine, principal and vice chancellor of the University of St. Andrews, arrived in New York on the White Star liner *Majestic*, March 27, to attend the dedication of the Sterling Chemistry Laboratory at Yale University, New Haven, Conn., April 4.

Roentgen's Monument.—The fact that Roentgen never tried to capitalize his great discovery and that he lived on a small pension and died poor is said by our exchanges to be the greatest of all monuments to his memory. He even presented the Nobel prize conferred on him to the German Society for the Advancement of Science, the Naturforscher- und Aerzte-Gesellschaft, at a meeting of which in 1895 he told the news of his discovery. He was the first recipient of the Nobel prize in physics, in 1901, and was showered with other honors of all kinds. A Spanish exchange suggests that every one benefited by the roentgen rays in any way should make a point of telling his children about the glory of this modest professor of physics. Characteristic of Roentgen was his reply to the English scientist who asked what he thought when he saw the first roentgen-ray picture: "I did not think, I investigated."

Deaths in Other Countries

Dr. **Norman Dalton,** senior physician to King's College Hospital, March 9, in London.——Dr. **David C. Alexander** of Selkirk, Scotland, in Florida, U. S. A., February 17.——Lieut.-Col. **Herbert S. Taylor,** R. A. M. C., at Kampti, India, aged 53.

CORRECTIONS

Physicians' Licenses in Nebraska.—Competent Nebraska lawyers who have investigated the matter uniformly agree that no Nebraska physician's license issued since 1919 is in jeopardy in any way. The rumor to the contrary is thus set at rest.

Vienna Society Issues Statement Regarding "Blue Book." —In the letter published in THE JOURNAL, April 22, 1922, page 1219, certain statements are made concerning the relation of Dr. I. Lange to the American Medical Society of Vienna. Professors Holzknecht and Stoeck write that the Society of Vienna Instructors did not defray the expenses of Dr. Lange on his homeward trip, nor did it pay for the issue of the "Blue Book."

Government Services

Hospitals Authorized

The authorization of Evacuation Hospital No. 25 (West Suburban Hospital Unit, Melrose Park, Ill.), has been amended to read Evacuation Hospital No. 25 (West Suburban Hospital Unit, Oak Park, Ill.).——Pursuant to instructions of the Secretary of War, the organization of a surgical hospital, organized reserves, to be known as Surgical Hospital No. 4 (Washington University Medical Unit, St. Louis) has been authorized.

Physicians Wanted for Indian Service

A call from the national civil service commission is being made for physicians to fill positions in the Indian Service. There are fifteen vacancies at various western schools and agencies.

Colonel Ashburn Goes to West Point

Col. Percy M. Ashburn, commandant of the Medical Field Service School, U. S. Army, at Carlisle, Pa., has been detailed surgeon at the West Point Military Academy, to become effective in August. Colonel Ashburn has been stationed at Carlisle for three years. He will be succeeded by Lieut.-Col. Charles R. Reynolds, from the Surgeon General's Office.

Physicians Qualify for Navy

The Surgeon General of the Navy announced this week the following appointments as assistant surgeons with the rank of lieutenant (junior grade) in the Naval Medical Corps: Drs. James Root, Jr., Temple, Texas; Roscoe E. Avery, Barre, Vt.; James F. Hays and John McL. Brewster, Philadelphia; James D. Viecelli and Joseph D. Market, Denver; Earl S. McRoberts, Indianapolis.

Navy to Commission Recent Graduates

Sixteen students who will graduate from medical colleges this year have been examined and found qualified for appointment as medical officers in the Navy, and will be commissioned with the rank and pay of junior lieutenants. Twelve of these students are members of the graduating class of the Indiana University School of Medicine, Indianapolis, Ind.; two are from Jefferson Medical College, Philadelphia, and two from the University of Colorado Medical School. This is a departure from the usual policy of in Navy Department. There still remain approximately twenty vacancies in the Navy Medical Corps.

Additions to Medical Reserve Corps

Recent additions to the Medical Reserve Corps of the Army include Dr. Hubert Work, former Postmaster General and now Secretary of the Interior. Dr. Work, who was commissioned a colonel, was formerly president of the American Medical Association, and in the World War served as liaison officer between the Surgeon General of the Army and the provost marshal. Another public official recently commissioned in the Medical Reserve Corps is Representative John W. Summers of Walla Walla, Wash. Congressmann Summers has practiced medicine for twenty-five years.

Posthumous Medal for Dr. Register

The War Department made the posthumous award of the Distinguished Service Medal to Lieut.-Col. Edward Chauncey Register, Jr., M. C., U. S. Army, February 27. The medal was presented to Mrs. Jeannie Register, widow of the deceased. Dr. Register died at Tarnapol, Poland, in January, 1920, of typhus fever, contracted while establishing a hospital for victims of a typhus epidemic.

for funds for the relief of the Greek and Armenian refugees. At present, 8,000 people in quarantine are being cared for by the American Women's Hospitals on Macroni Island. Checks should be made payable to Dr. Sue Radcliff, treasurer, 637 Madison Avenue, New York City.

Society News.—The annual meeting of the American Physical Education Association will be held at Springfield, Mass., April 11-14.——The twenty-fourth annual meeting of the American Proctologic Society will be held in Los Angeles, June 22-23, under the presidency of Dr. Emmet H. Terrell, Richmond, Va.——The annual meeting of the National Academy of Sciences will be held in the U. S. National Museum, Washington, D. C., April 23-25.——The eighteenth annual meeting of the American Association of Museums will be held in Charleston, S. C., April 4-6.

Second Annual Clinical Tour.—The program of the second annual clinical tour for physicians of the United States and Canada has been announced. The main party will leave Montreal on the S. S. *Megantic*, June 16. The tour will include trips through Scotland, England, Holland, Belgium, France, Switzerland, Italy and Germany, with clinics at Edinburgh, Leeds, London, The Hague, Paris, Rome and Berlin. The clinical work will be under the supervision of Dr. Alexander J. MacKenzie.

Embargo on Narcotics Modified.—The embargo on narcotic drug importations was partially removed following a meeting of the Federal Narcotic Control Board and drug manufacturers at the Treasury Department. Manufacturers, under the agreement made at this meeting, may import narcotics in an amount equal to their imports during the corresponding period of the year 1922, pending a second conference to be held, July 1, to discuss subsequent supplies and demand. Illicit use of narcotics was not a major topic of the conference, which was confined to a consideration of the needs of the medical and drug professions, the supply for which has been materially reduced by the recent embargo.

Passengers' Liquor Allowance Questioned.—Passengers landing at New York from vessels arriving from foreign ports were authorized to bring ashore 1 quart of liquor for medicinal purposes, according to an order issued this week by Thomas W. Whittle, surveyor of that port. The validity of the order has been questioned by Assistant Secretary Moss of the Department of the Treasury, and it was indicated that it would probably be materially altered. Mr. Moss declared that the Treasury Department understood that the order was intended to permit passengers who were ill to bring alcoholic stimulants ashore with them when necessary, but that on the face it appeared to be a direct violation of the Volstead Act and of customs regulations prohibiting the inclusion of liquor as a part of a passenger's baggage.

Traffic in Peyote Prohibited.—The campaign of the Department of the Interior to suppress the use of peyote among the American Indians has been augmented by the passage of bills in Colorado and South Dakota which prohibit the manufacture and traffic in this drug. These states, with the number already having laws forbidding the sale of peyote, brings the total up to seven, the other states being Kansas, Montana, Nevada, North Dakota and Utah. Annual appropriations were made at the last session of Congress for the suppression of liquor and peyote among Indians. This drug was first used as a medicine by Indians in Mexico and in parts of Arizona and New Mexico, but its use has spread to Indian reservations throughout the Western states, particularly Oklahoma and Nebraska. Peyote is the dried flowering tops of the peyote cactus, which when chewed has an effect similar to that of cocain.

International Opium Commission to Meet Again.—Information has been received that Dr. Rupert Blue, the American representative at the recent meeting of the International Opium Advisory Commission of the League of Nations at Geneva, proposed that all the nations concerned in suppressing the illicit traffic in narcotics adopt measures similar to the Harrison and Jones-Miller narcotic acts that are now in force in the United States, regulating the import, export and internal traffic. Dr. Blue found, according to the report submitted to Washington, D. C., that the laws of England are ideal but that India, a British possession, is more responsible than any other country for the large quantities of opium and its derivatives that are smuggled to other countries. The Geneva meeting, which was attended by representatives of the United States, Great Britain, France, China, Germany, India, Japan, the Netherlands, Portugal and Siam, adjourned to meet again some time during the present year.

Conference Board of Physicians in Industry Meets.—The thirty-seventh meeting of the Conference Board of Physicians in Industry was held, March 17. In a discussion of methods of resuscitation from carbon monoxid poisoning it was the concensus of opinion that no form of mechanical inhaler should be operated by an untrained person and that the use of these appliances should be restricted to those who have been specially instructed in their construction and operation. For general resuscitation, the conference reaffirmed its endorsement of the prone pressure method over all others. In injuries to the lower back, the importance of the fifth lumbar vertebra was emphasized by the conference. This vertebra is the most important of all the spinal segments as it is the last mobile segment above the sacrum and as such bears the greatest weight, owing to body movement. It is also the one most frequently fractured. Anatomic abnormalities of this segment, such as elongated transverse processes, malposition of the facets and undeveloped pedicles, together with elongated spinous processes, may be present. If the elongated transverse processes rest on the crest of the ilium, they are likely to produce pain. The variation in the lumbosacral angle is also of importance when these processes are of abnormal length. Malposition of the facets may cause a twisting of the vertebra, producing a strain. Contact between the elongated spinous processes of the fifth lumbar and the first sacral vertebra may also be the cause of discomfort. In early life, before ossification is complete, the spinal column is more mobile and may maintain its anatomic balance without producing symptoms, but if, after complete ossification, an injury occurs which disturbs this balance, it will be impossible for the patient to obtain a readjustment, and pain and disability will result.

Opportunities for Study at French Clinics.—There are available through the offer of the Medical Faculty of Paris twenty-four positions as foreign assistant in the clinics of the following professors: surgery (5): Professors Hartman, Delbet, Gosset, Lejars, Duval; medicine (6): Professors Gilbert, Widal, Achard, Chauffard, Vaquez, Sergent; pediatrics (2): Professors Nobecourt, Marfan; surgery of children (1): Professor Broca; gynecology (1): Professor Faure; obstetrics (2): Professors Couvelaire, Brindeau; dermatology and syphilology (1): Professor Jeanselme; neurology (1): Professor Pierre-Marie; psychology (1): Professor Claude; contagious diseases (1): Professor Teissier; genitourinary diseases and surgery (1): Professor Legueu; ophthalmology (1): Professor de Lapersonne; laryngology and otology (1): Professor Sebileau.

Besides these official positions, there are, in other clinics, numerous nonofficial positions: gastro-enterology and bacteriology, at the Pasteur Institute; radiology, at the Curie Institute; roentgen-ray diagnosis and therapeutics at many clinics, and tropical medicine, at the Colonial school. These positions are given by personal appointment depending on credentials offered by the applicant. There are also offered each year one or more scholarships under the American Field Service Fellowships for research in medicine. There will be four rotating internships available at the American Hospital of Paris in 1924. Opportunities are available to visiting American physicians for the organization of private group instruction in the specialties under leading teachers in Paris for moderate fees. Detailed information can be obtained by writing the secretary of the American Medical Society of Paris, care of the American University Union, 1 rue de Fleurus, or the secretary in the United States, Dr. D. M. Stiefel, Massachusetts General Hospital, Boston.

Bequests and Donations.—The following bequests and donations have recently been announced:

Huntington Hospital, Huntington, L. I., $100,000; Society of St. Johnsland, for a cot in a children's hospital, $10,000; New York Orthopedic Hospital and Dispensary, $5,000; State Charities Aid Association, $2,000; Home for Incurables, New York, $1,300; American Red Cross, $1,000, and St. Agnes Hospital, Raleigh, N. C., $1,000, by the will of Miss Cornelia Prime.

St. Vincent's Hospital, Taylorville, Ill., $55,000, from a drive for funds.

Georgetown University, Washington, D. C., $50,000, for the nurses' home at University Hospital, by an anonymous donor.

St. Elizabeth's Hospital, Utica, N. Y., $50,000, by the will of James A. Murphy.

Warren County Hospital, N. J., $50,000, for the establishment of the institution, from a campaign for funds.

Oregon Tuberculosis Association, property valued at between $50,000 and $60,000 by the will of Mrs. Jean Holton of Portland, Ore.

Mount Sinai Hospital, New York, the residuary estate of Henry Lowy, amounting to about $35,000.

Calvary Cancer Hospital of the Bronx, N. Y., $33,788, by the will of Josephine N. Besson.

Roosevelt Hospital, New York, and the Masonic Hall and Asylum, $20,000 each; the New York Eye and Ear Infirmary and the Manhattan

Sir William Arbuthnot Lane, consulting surgeon to Guy's Hospital, gave evidence that he had seen intense misery and distress due to multiple pregnancies. Assuming cleanliness, there was no danger in the measures advocated by the plaintiff. He, himself, had advised numbers of women to use a contraceptive method. Mr. Harold Chapple, gynecologist to Guy's Hospital, approved the measures advocated by the plaintiff, stating that, if employed with average intelligence, they would not be harmful. Sir William Bayliss, F.R.S., professor of physiology in the University of London, said that he saw nothing objectionable in the plaintiff's books. They served the excellent purpose of instruction in a noble and elevating way in the mysteries of sexual relations which every one should know as soon as he or she began to get information on the subject.

For the defendant, Miss Louise McIlroy, professor of gynecology at the Royal Free Hospital, stated that the method recommended was the most dangerous form of contraception. The unrestrained use of contraceptives without medical advice was extremely bad. She admitted that one method of contraception was not harmful to women. She had known cases in which a woman could not have a child because of the previous use of contraceptives. She was not opposed to contraceptives for medical reasons. The defendant gave evidence that he wrote his book to make known arguments against birth control. He was a Roman Catholic, but it was not at the behest of any Roman Catholic that he wrote his book. Indiscriminate broadcasting of knowledge of sex and contraceptives would do no good. Dr. Stopes' writings contained a nauseating mixture of physiology and emotion instead of the cold language of physiology. Dr. A. E. Giles, gynecologist, said that the method recommended by Dr. Stopes might be attended with danger. Similar evidence was given by two other gynecologists, Dr. F. J. McCann and Mrs. Mary Scharlieb.

In summing up, the judge (the lord chief justice) said that the defendant had to show that his statement of facts was true and his comments fair. Nobody disputed the wisdom of explaining in innocent, helpful language to young persons the mysteries of sex, but controversy began as to the method. The next step was a kind of jump from this: that they should be taught about contraceptives because they were desirable for some persons in some circumstances. Then they came to the method recommended by Dr. Stopes, which had become a sort of panacea for social ills, both public and private. He noted the difference of opinion among the medical witnesses as to this method. The jury had the plaintiff's books submitted to it. Could it say that they fell short of being obscene? He submitted to the jury four questions which were thus answered: Were the words complained of defamatory? Yes. Were they true in substance and in fact? Yes. Were they fair comment? No. What should the amount of damages be? Five hundred dollars.

A legal argument took place as to which party was entitled to the verdict. It was contended for the defendant that if the libel was found true in substance and in fact, the question of justification did not arise. The judge agreed and gave judgment for the defendant. On the medical question of the harmlessness of contraceptives, the contradiction between leading gynecologists is noteworthy.

Fatal Air Embolism During Urethroscopy

At a meeting of the urologic section of the Royal Society of Medicine, Mr. R. Ogier Ward, first assistant of the directorate of surgery, St. Bartholomew's Hospital, described a remarkable fatality from air embolism during urethroscopy:

A man, aged 68, had stricture of the urethral bulb, the result of gonorrhea contracted forty years previously. During aero-urethroscopy, in which slight bleeding occurred and in which rather more than the usual air pressure was necessary, the patient suddenly became dyspneic and cyanotic, had a convulsion and died. Cardiac massage failed to revive him. The heart could be felt to contain air. Froth issued from the right ventricle when, later, it was incised. All the chambers of the heart contained frothy blood. Bubbles were found in the aorta, common iliacs, pulmonary vein, inferior cava and other vessels.

The case showed the danger of aero-urethroscopy with laceration of the mucous membrane of the urethra and a tight stricture preventing the escape of air into the bladder. Mr. Ward suggested that the use of oxygen might give a greater margin of safety.

The Fatal Toy Balloon

For the second time in recent weeks, a child has been killed by a toy balloon. While a 5-year-old girl was trying to inflate a balloon, it slipped down into her larynx (evidently by inspiration), and she died from suffocation a few hours later. A physician who gave evidence at the inquest said that every time the child breathed, the balloon became partially inflated. Why an attempt was not made to save her life by operation is not stated. In the other case, the child was also a girl of 5.

Abrams Outdone: Diagnosis by Machine

The lay press is regaling its readers with a "discovery" which enables the physician to diagnose obscure cases. All that he has to do is to obtain a specimen of the blood or saliva and have it tested by an "uncanny instrument," the invention of a young Glasgow physician. The idea, we are told, originated with a San Francisco physician, Abrams, who discovered that every disease had its own special rate of vibration. The new instrument is termed "Boyd's emanometer' and is superior to Abrams' "oscilloclast," being more accurate and more sensitive. It is so sensitive that a strong light or even a strong scent puts it out of gear and interferes with the "disease reactions." Not only are disease conditions registered, but the exact intensity of each is measured, such maladies as cancer and tuberculosis being discoverable in their earliest stages, long before any other known method of examination would reveal them. Further, the patient's vital resistance is measured, and its increase or decrease at a subsequent test is a sure sign of progress or retrogression. But perhaps the greatest marvel of all is the power to find in each case exactly what medicine is needed.

PARIS

(From Our Regular Correspondent)

March 9, 1923.

Risks Incurred by Hospital Interns and Externs

Several deaths among hospital interns and externs, who succumbed to diseases contracted at the bedside of patients, have attracted attention to the risks incurred by these young men during the performance of their duties. Considerable surprise has been expressed that no legal provision has been made that will insure to interns and externs or their families adequate indemnities for sickness, accidents and death resulting from the practice of their profession. At the last meeting of the general council of the Association générale des médecins de France, M. Justin-Besançon, president of the Association professionnelle des externes et anciens externes des hôpitaux de Paris, recorded his dissatisfaction with this state of affairs. Nurses are protected by law against occupational accidents, because they are salaried persons. Interns and externs, however, are not considered as recipients of salaries, and are therefore not protected under this law, for the hospitals are public establishments and are not deriving any profits, whereas the law of 1898 in regard to occupational accidents deals only with industry and trade. Consequently, in order for an intern or extern to be entitled to an indemnity, he would have to prove that the disease was contracted

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 12, 1923.

Prohibition

In no country in the world, not even in the republics, does the individual enjoy so much liberty as in Great Britain. Regard for his rights has been carried in some cases to the point of national danger. Thus, we were the only power that fought for years in the Great War with a voluntary army, and only sheer necessity brought about conscription, gradually and with difficulty. Compulsory vaccination has been practically abolished out of regard for the opinions of the antivaccinationists. It will therefore be seen that the prohibition of alcohol as a beverage is not likely to come about, although we are keenly alive to its evils, and have had for more than half a century an active temperance party containing many of our greatest social reformers. What this party has agitated for is "local option," i. e., giving the local authorities the power of controlling and prohibiting the liquor traffic in their own districts. But the temperance party has never been large enough to make the proposal an issue of practical politics. However, the experiment of prohibition in the United States is being keenly watched here and has given rise to hopes among the temperance people and fears among those interested in the liquor trade. These fears are manifested by the founding of an antiprohibition league, whose views and arguments were well put forward at a recent meeting at the Mansion House (the official residence of the lord mayor). The president, Lord Lonsdale, who was unable to be present, wrote that, while he would gladly do all that he could to prevent excesses, he held that all Englishmen know best how to fit themselves for their respective spheres in life, and because there may be excesses at times, he does not see why the majority of temperate men should be dictated to in the interest of a minority. Prohibition would be a serious blow to all, and cause the creation of illegitimate poisons injurious to life. The chairman, Lieut.-Col. Cuthbert James, M.P., gave a lurid picture of prohibition in America: "Young people who before prohibition did not tend to alcoholic excess now drink cocktails out of soup plates and are doing all they can to evade the law. Outside the pharmacists' shops in the great cities, queues wait to get their doses of alcohol, be it wood or genuine stuff, of cocain, morphin and other pernicious drugs, which do more injury, physically, morally and mentally, than the much condemned alcoholic refreshment." Lady Astor's bill (referred to below) was class legislation in its worst form. The children of the well-to-do could drink as much as they liked in their homes, but the bill prevented children of the poor from buying even a glass of cider or a glass of beer. The colonel concluded by reading a letter from a well known physician and teacher, Sir Thomas Horder, which must carry much more weight than the previous arguments. Sir Thomas wrote:

> There is an unfortunate tendency among the advocates of prohibition to invoke the aid of science on their behalf. Science—and I include medical science—has no support to give them. Science is often prostituted by the quotation of ill-devised experiments, the results of which are said to be condemnatory of the use of alcoholic beverages even in moderation. Formerly it was common to hear about plants fed with alcohol; and because they withered and died, this was said to be proof that alcoholic beverages are prejudicial to health. Less crude experiments than this, but with fallacies nearly as gross underlying them, are being quoted today, and are being made arguments in favor of prohibition. No experiments have yet been devised which prove that the moderate use of alcoholic beverages is injurious to health. Experience shows that the output of the brain work, and the maintenance of life in our highly civilized conditions at its best level, are both of them assisted by the moderate use of these beverages. Let us not, therefore, be stampeded into a false position by the ulterior motives of pseudo-scientists.

In the House of Commons, Vicountess Astor introduced a bill making it illegal to sell to any one apparently under 18 any kind of intoxicant for consumption in a saloon. She pointed out that the bill had the support of the medical profession. The period in a boy's or a girl's life from 14 to 18 was the most difficult one. The point of the bill was to develop self-control and the powers of resistance. The chief medical authorities were at one as to the dangers arising during adolescence. In 1921, 2,172 boys and girls between 16 and 21 were arrested for drunkenness. The bill was supported by the Labor party, and the first reading was carried by a majority of 338 to 56. In a letter to the *Times*, under the caption of "The Nation's Youth," four leaders of the profession—Lord Dawson, Sir Thomas Barlow, Sir Thomas Horder and Sir George Makins—support Lady Astor's bill. They regard it as a matter quite apart from the principle of general prohibition, saying that

> There can be no doubt as to the desirability of employing all possible safeguards to prevent the danger of starting alcoholic habits in those who have just entered on the period of stress which puberty involves and are on the threshold of adult life. Rapidly developing organs, new functions, and increased activities require all the protection that can be secured for them during that period, when readjustments of vital importance have to be made. It is difficult to conceive any valid objection that can be raised against Lady Astor's bill.

Birth Control Libel Action

Birth control has come prominently before the public in the last few years, largely in consequence of activities of the "Society for Constructive Birth Control and Racial Progress," which held a congress on the subject last summer, as reported in THE JOURNAL. While the movement has received the support of many influential persons both inside and outside the medical profession, it has also encountered strong opposition, particularly from the Roman Catholic Church. The position is well shown by a libel action which has just taken place. Dr. Marie Stopes, a doctor of science of the University of London, of philosophy of the University of Munich, president of the society and author of several widely read books on sexual subjects, brought an action against a physician, Dr. H. G. Sutherland, because in a book entitled "Birth Control" he thus attacked her character:

> Secondly, the ordinary decent instincts of the poor are against these practices; and, indeed, they have used them less than any other class. But, owing to their poverty, lack of learning, and helplessness, the poor are the natural victims of those who seek to make experiments on their fellows. In the midst of a London slum, a woman, who is a doctor of German philosophy (Munich), has opened a birth control clinic where working women are instructed in the method of contraception, described by Professor McIlroy as "the most harmful method of which I have had experience." It is truly amazing that this monstrous campaign of birth control should be tolerated by the home secretary. Charles Bradlaugh was condemned to jail for a less serious crime.

For the plaintiff, it was stated that her sole object was to prevent the unhappiness which arose from people having more children than they could properly bring up. Several leading members of the medical profession gave evidence on her behalf. Sir James Barr, F.R.C.P., consulting physician to the Liverpool Royal Infirmary, said that the plaintiff's clinic was doing an enormous amount of good. The information all wealthy people had at the present day should be given to the poor. The methods described were very safe. On cross-examination, he stated that Dr. Stopes' books "Married Love" and "Wise Parenthood" were more suited to the married than to the young, but he did not think that they were demoralizing. The plaintiff, in her evidence, stated that the object of her society was to counteract the steady reduction of the birth rate among the thrifty and sound, and the reckless breeding of persons at the other end of the social scale. Her clinic was founded to help overburdened women of the working class who were ignorant of the knowledge contained in her writings. Besides the midwife in charge, there was a visting physician who saw patients. There had been no experiments.

the opponents of the proposed plan. All the associations, however, are agreed that sex instruction is incumbent on the family as such, but, since it has been established that, for various reasons, most parents fail to perform their duty in this respect, some associations of parents hold that the schools should be asked to take over the task.

Eighth Congress of Legal Medicine

The eighth congress of Médecine légale de langue française will assemble in Paris, May 24-26, 1923, under the chairmanship of Dr. Pierre Parisot, professor of legal medicine of the Faculté de médecine of Nancy. The questions on the program are: (1) traumatisms of the spine and industrial accidents, papers by Professor Etienne Martin (Lyons) and Dr. Mazel; (2) the law in regard to industrial diseases, papers by Professor Balthazard (Paris) and Dr. Piédelièvre, and (3) international regulation of the sale of cocain, paper by Dr. Courtois-Suffit of Paris.

BUENOS AIRES

(From Our Regular Correspondent)

Feb. 20, 1923.

Government Intervention in Student Strikes

Hardly had President Alvear assumed charge of the government, when it was realized that order and discipline would again prevail in the universities, which are here under government control. At Rosario, immediately after several unruly actions by medical students, the directing board applied disciplinary measures to those responsible. The rector of the university revoked these measures, but the faculty, considering the matter one purely under its jurisdiction, refused to pay any attention to the rector's decree. Then the rector, at the head of a number of students, presented himself at the school, demanding that the faculty obey his instructions. The dean again refused to yield, and the federal government sent a commissioner, Dr. B. Nazar Anchorena, to deal with the situation. An agreement was reached, but the rector refused to carry out his part of it. Dr. Nazar Anchorena was again sent from Buenos Aires, with full powers to decide the matter. On reaching Rosario, he found the dean and several professors besieged in their own office by a number of students, who had cut off both water and light. On the evening of Dr. Anchorena's arrival, he was hooted by a group of students headed by the rector and several professors. On receipt of Dr. Anchorena's report, the rector, a few other professors and the student ringleaders were dismissed. Thus all attempts to create trouble failed, in spite of some political encouragement. It is felt that the government will not put up with further disturbances, and that it will uphold discipline even at the cost of closing the school.

At Cordoba, the professors in the medical school and a great many other prominent persons have petitioned the government to investigate affairs at the school, as its management, they assert, is now in the hands of students who boast of being communists and antinationalists.

Reorganization of Tuberculosis Sanatorium

The Commission on Regional Homes and Hospitals, consisting of Drs. Cabred, Justo and Reibel, was compelled to reorganize the tuberculosis sanatorium at Santa Maria (Cordoba), as strikes by either patients or nurses, or serious internal disturbances, had become of daily occurrence. This was chiefly due to the fact that politicians had got hold of the administration. To put an end to such an anomalous situation, Dr. Luzuriaga was appointed acting superintendent so that he might reorganize the sanatorium. Once this was done, Dr. Roballos was appointed superintendent. The commission is planning to build in the vicinity of the sanatorium a sufficient number of cottages to care for 1,000 patients.

At Rosario, a tuberculosis sanatorium was opened at Saladillo, one of the most populous suburbs of the city.

Control of Habit-Forming Drugs

The steady increase in the use of habit-forming drugs, such as morphin, and especially cocain, is forcing the authorities to intervene in the matter. The provincial government of Cordoba has just approved a very rigid law to combat drug habituation, and the federal government is empowered by congress to assume charge in the whole country.

Colony for Deserted Minors

A large and up-to-date colony and reformatory for deserted minors has been opened at Olivera, Buenos Aires Province. The institution is well equipped, and has been placed in charge of the Commission on Regional Homes and Hospitals.

Smallpox

With the exception of sporadic cases at Corrientes and Embarcacion (Salta), smallpox has apparently disappeared. The Cordoba board of health states that it has vanished altogether from the province. The disease, however, persists in Chile and has just made its appearance in Uruguay, where it was imported from Brazil. It was so mild at first that it was diagnosed chickenpox. The physicians have confirmed the diagnosis of mild smallpox. Mortality has not exceeded 10 per cent. There have been several hundred cases in Uruguay, and the disease has spread to Montevideo, although the authorities there assert that the outbreak has come to an end.

Health Conference

At the call of the president of the National Department of Public Health, a meeting of national and provincial authorities will be held in this city, for the purpose of making the laws uniform, broadening the powers of the national government, and coordinating the efforts of the several authorities. The preliminary program is quite comprehensive.

Conference on Hygiene, Microbiology and Pathology

The Third South American Conference on Hygiene, Microbiology and Pathology was held in Montevideo, January 28-February 3. The first conference on medical pedagogy was held concurrently. Besides the many Uruguayan delegates, representatives from other countries included: Drs. F. A. Justo, A. Bachman, J. Carbonell, B. A. Houssay, G. Araoz Alfaro and A. Sordelli from Argentina; Drs. A. de Castro, S. Libanio, A. de Assos, G. Moura Costa and Toledo Dodsworth from Brazil; Dr. D. Fernandez Espiro from Ecuador; L. Migone from Paraguay, and J. Gonzalez from Peru. Many papers were presented on such subjects as hookworm disease, malaria, typhoid fever, venereal diseases and tuberculosis. Favorable comment was made on public health work at Minas Geraes by Sr. S. Libanio, and at Corrientes and Tucuman by A. Bachman. Valuable studies were submitted by Dr. A. Sordelli on antigangrenous polyvalent serum; by Cleaux and Assis on classification and preservation of meningococci, and by Houssay and Kraus, on snake venom.

At the meeting on medical pedagogy, two reports and three papers were presented. Aloysio de Castro sketched a general plan for the international exchange of professors. G. Araoz Alfaro insisted on the need of creating a special health corps, well paid and independent of politics. Dr. B. A. Houssay dwelt on the need of developing research institutes in medical schools, and of infusing the research spirit in students. A convention was signed at referendum,

through some fault of the administration, which is a matter very difficult to prove. A hospital extern died recently, leaving orphans, who have no claim whatsoever to any indemnity. Another extern has been suffering from a phlegmon; he was planning to become a surgeon, but has now two contracted fingers, which prevents him from carrying out his purpose. Nevertheless, he has no right to an indemnity. Furthermore, the administration of the Assistance publique (public charities) has decided not to grant, henceforth, free hospital treatment to externs, unless they can show that their disease was acquired in the service to which they are attached. In view of the justified protests awakened by this state of affairs, the minister of public health has consented to examine into the situation as affecting the medical and surgical personnel of the hospitals.

The Fight Against Syphilis

Until the last few years, it was not permitted to speak in public of venereal diseases. Fortunately, public opinion has been undergoing a change in this regard. It is beginning to be recognized that venereal diseases constitute a real public danger, and that this menace has become especially threatening since the war. Professor Bayet of Brussels recently delivered an address in Paris, before a large gathering, on the fight against syphilis in Belgium and on the Union internationale contre le péril vénérien, which has just been founded in Brussels. This society is in the nature of a league of all the antivenereal societies throughout the world, including the league of the Red Cross societies. At Paris an attempt is being made to utilize motion pictures to instruct the general public in regard to what should be a matter of common knowledge with respect to antivenereal prophylaxis.

Granting of Diplomas to Masseurs

The minister of public health having demanded the creation of diplomas for masseurs, the administrative council of the Syndicat des médecins of the department of the Seine, acting in agreement with the Société des chirurgiens des hôpitaux de Paris, has filed a protest, in which it is set forth that massage applied to a patient is essentially a medical act, which is not without its dangers and presupposes the exercise of good judgment, for which reason the indications should always be formulated by a physician, and the massage should be given under his direction and control. Consequently, a masseur should be formally prohibited from applying massage, in any form, to a patient, except in accordance with a medical prescription. It is further urged, that to create an official diploma for "masseurs" or "surgical masseurs," or even to grant a certificate or to bestow any other analogous authority would result in encouraging the illegal practice of medicine, and would consequently cause serious detriment to public health. Such an innovation would be, furthermore, in contravention of the text and spirit of the law of 1892, which reserves to doctors of medicine the practice of the medical profession. The administrative council of the Syndicat des médecins utilized this opportunity to call the attention of the public authorities, and, more particularly, of the minister of public health, to the inadvisability and the danger of so-called paramedical diplomas in general, which, conferring, as they do, apparent scientific authority on mere aids of physicians, are of a character to deceive and work a detriment to the public.

Books for the War Blinded

The American committee in aid of the war blinded, which is under the patronage of M. Millerand, president of the French Republic, President Wilson, and the king and queen of Belgium, is about to open shortly a large publishing house for books printed in the braille system. It is thought that the annual capacity of the plant will be around 30,000 volumes. The plates will be made of zinc and will be preserved. The work to be printed will be dictated by machines, and six or seven operators will be able to work simultaneously. The final proof pages will be read by a blind man. It has been found feasible to print the braille characters on both sides of the paper, an innovation which will permit a saving of 50 per cent. in paper, while the more extended use of abbreviations will mean a further economy of 30 per cent. Books in braille characters will thus be less bulky and more easily handled. The organizing committee estimates that it will be possible to publish a volume in less than twelve days. This publishing house will distribute gratuitously books published in the language desired to the blind soldiers of France and allied countries. It will also furnish to the civilian blind any surplus of books not needed by the war blinded. It will publish a journal in braille characters, and plans also to get out reading courses.

The Committee on Prophylaxis Against Tuberculosis

The American Rockefeller Mission, which, for several years, has been pursuing in France an active propaganda against tuberculosis, has just turned over its services and its activities to the Comité national de défense contre la tuberculose, which, under the direction of M. Léon Bourgeois, Professors Calmette and Léon Bernard and M. Georges Risler, president of the Musée social, will assume this publicity campaign, by means of lectures, motion pictures, etc.

The Dangers of White Lead

At the instigation of the Ligue des sociétés de la Croix-Rouge, a league which comprises today the national societies of forty-three countries, a special meeting was called recently in the large amphitheater of the Sorbonne, the object of which was to support the universal adoption of resolutions proposed by the third international conference of labor, held at Geneva in 1921, for the protection of workmen painters against the grave dangers connected with the use of white lead.

Practical Instruction in Child Welfare

M. Léon Bérard, minister of public instruction, and M. Strauss, minister of public health, recently addressed to the departmental prefects a circular letter concerning practical instruction in child welfare in the primary schools for girls. The circular emphasizes how essential it is for girls from 10 to 13 years old to know the main rules to follow and the elementary principles to be applied to promote the health of young children, especially in the fight against infant mortality. This instruction would not overload the curriculum if it were reduced to the imparting of a few well established facts, outside of class hours, by a woman who would assist the pupils every Thursday morning (Thursday is a holiday in the French schools) in a consultation hour for infants, a *crèche* or something of a similar nature.

Sex Education in the Lycées, or Secondary Schools

An inquiry has been instituted among the various associations whose membership is made up of the parents of the pupils in the lycées, in order to get an expression of opinion on the question of introducing into the course in natural science, as now given in the lycée, the study of the phenomena of human reproduction. Five such associations of parents (Angoulême, Calais, Cherbourg, Lyons and Lycée Janson de Sailly at Paris) have taken a pronounced stand against such instruction. Four associations (Bordeaux, Grenoble, Marseilles and Philippeville), on the other hand, have expressed themselves in favor of the modified course. Some associations have not as yet expressed an opinion, and others have expressed themselves in such doubtful terms as to make it impossible to classify them among either the advocates or

Deaths

Lewis Coleman Morris ⊕ Birmingham, Ala.; University of Virginia Department of Medicine, Charlottesville, 1892; professor of gynecology and abdominal surgery since 1912, and formerly dean at the University of Alabama Graduate School of Medicine, Birmingham; member of the American Association of Obstetricians and Gynecologists, and the Southern Surgical Association; past president of the Medical Association of Alabama; member of the board of health; aged 51; died suddenly, March 23, of heart disease.

William Robson Nichols, Winnipeg, Manit., Canada; Trinity Medical College, Toronto, Ont., 1886; F.R.C.S., England, 1902; L.R.C.P., London, 1899; president of the Winnipeg Clinical Society; examiner in surgery at the Manitoba Medical College, Winnipeg, in 1908; at one time house surgeon at Guy's Hospital, London, England; member of the American Association of Gynecology; aged 63; died recently, of cerebral hemorrhage.

Ernest Eugene Levers ⊕ Sheridan, Wyo.; Ohio Medical University, Columbus, 1898; president of the Sheridan County Medical Society, and past president of the Wyoming State Medical Society; formerly member and president of the state senate; member of the state board of medical examiners; at one time medical director of the Wyoming General Hospital (Sheridan County Memorial Hospital), where he died, March 16, of septicemia, aged 51.

Robert M. Funkhouser ⊕ St. Louis; New York University Medical College, New York, 1874; also a lawyer; formerly professor of topographical anatomy, pathology and clinical surgery, Beaumont Hospital Medical College, St. Louis; at one time president of the state medical association and the St. Louis Medical Society; served in the M. C., U. S. Army, during the World War; aged 73; died, March 13, of heart disease.

Charles E. Preston, Ottawa, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1904; L.R.C.S., L.R.C.P., Edinburgh, 1906; L.R.F.P.S., Glasgow, Scotland, 1906; served during the World War with the Canadian Army Medical Corps in France; aged 38; died, February 7, of pneumonia.

James Samuel LaBelle, Windsor, Ont., Canada; Detroit College of Medicine and Surgery, Detroit, 1897; Trinity Medical College, Toronto, 1898; for twenty years coroner of Essex County; member of the school board and the city council; aged 55; died suddenly, March 9, of heart disease.

Cummins E. White, Buckhannon, W. Va., Baltimore University School of Medicine, Baltimore, 1892; member of the West Virginia State Medical Association; formerly superintendent of the Weston State Hospital, Weston; aged 54; died, March 14, of carcinoma of the stomach.

John Edward North, Rock Rapids, Iowa; Hahnemann Medical College and Hospital, Chicago, 1895; member of the Iowa State Medical Society, and president of the Lyon County Medical Society; member of the board of education; aged 54; died suddenly, March 14, from asthma.

Howard Aiken Ijams, Knoxville, Tenn.; University of Michigan Medical School, Ann Arbor, 1897; served in the M. C., U. S. Army, during the World War; formerly city physician; aged 49; was instantly killed, March 7, when his automobile was struck by a street car.

Albert D. Lake, Gowanda, N. Y.; Western Reserve University School of Medicine, Cleveland, 1868; physician to the New York State Indian Agency and the Thomas Indian School on the Cattaraugus reservation since 1888; aged 77; died, March 14, of heart disease.

Levi B. Casey, Marion, Ill.; University of Louisville Medical Department, Louisville, Ky., 1885; University of Illinois College of Medicine, Chicago, 1888; member of the Illinois State Medical Society; aged 60; died, March 14, of pneumonia following influenza.

Archibald McLay, Woodstock, Ont., Canada; Victoria University Medical Department, Toronto, 1868; practitioner in Woodstock for half a century; member of the city council, board of education and for many years health officer; aged 80; died, January 28.

James Edward Keating, Portland, Me.; Medical School of Maine, Portland, 1895; formerly professor of clinical medicine at his alma mater; on the staffs of the Maine General and Children's hospitals; aged 58; died, February 26, following a long illness.

Ralph Ellis Leidy, Boyertown, Pa.; Jefferson Medical College of Philadelphia, 1914; for three years president of the board of health; served in the M. C., U. S. Army, during the World War; aged 36; died, March 13, of pleuropneumonia.

Julius B. Ransom ⊕ Dannemora, N. Y.; University of Vermont College of Medicine, Burlington, 1880; for thirty-four years chief physician at Clinton State Prison and Hospital for Criminal Insane; aged 68; died, March 15, of cerebral hemorrhage.

John Eugene Breglia, New York; Cornell University Medical College, New York, 1909; member of the Medical Society of the State of New York; formerly on the staff of the New York Post-Graduate School and Hospital; aged 36; died, March 19.

Otis Talbert Morey, Salisbury, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1898; member of the Missouri State Medical Association; served in the M. C., U. S. Army, during the World War; aged 46; died, March 8, of influenza.

Thomas Matthews Watson, Griggsville, Ill.; Eclectic Medical Institute, Cincinnati, 1874; member of the Illinois State Medical Society; secretary of the board of education for thirty-seven years; aged 71; died, March 18, of influenza.

James M. Raby, Windsor, Va.; University of Louisville Medical Department, Louisville, 1885; member of the Medical Society of Virginia; founder and president of the Farmer's Bank of Windsor; aged 62; died, February 28.

Mary Bridges White, Palo Alto, Calif.; Chicago Homeopathic Medical College, Chicago, 1880; Hahnemann Medical College and Hospital, Chicago, 1896; formerly a practitioner in Wisconsin; aged 66; died, March 17.

David S. Hollenback, Shamokin, Pa.; Jefferson Medical College of Philadelphia, 1882; member of the Medical Society of the State of Pennsylvania; Civil War veteran; aged 87; died, March 20, of senility.

Louis E. Barton ⊕ Malta, Ill.; State University of Iowa College of Medicine, Iowa City, 1886; formerly president of the DeKalb County Medical Society; aged 63; died, March 20, of cerebral hemorrhage.

William Henry Neumeyer, Fort Wayne, Ind.; Bennett Medical College, Chicago, 1913; formerly a practitioner in Chicago; member of the Indiana State Medical Association; aged 60; died, March 14.

Carl Ernst Wilhelm Levin, New York; New York University Medical College, New York, 1895; member of the Medical Society of the State of New York; aged 58; died, March 15, of pneumonia.

Andrew B. Beattie, Anna, Ill.; St. Louis Medical College, St. Louis, 1859; Civil War veteran; for thirty-five years on the staff of the Anna State Hospital; aged 90; died, March 28, of septicemia.

Rolph Brown ⊕ Toledo, Ohio; Detroit College of Medicine and Surgery, Detroit, 1897; member of the Michigan State Medical Society; aged 50; died, February 26, of cerebral hemorrhage.

Lewis Whaley ⊕ Birmingham, Ala.; Atlanta Medical College, Atlanta, Ga., 1873; aged 75; was instantly killed, March 15, when the automobile in which he was driving was struck by a train.

Sidney P. Cooke, Ottawa, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1869; practitioner in Ottawa for more than half a century; aged 79; died, January 30.

William Campbell Hays, Lorain, Ohio; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, Cleveland, 1901; aged 49; died, March 20.

John Holderread, Chicago; St. Louis College of Physicians and Surgeons, 1881; aged 65; died, March 6, of heart disease, and the effects of narcotics at the Cook County Hospital.

Theodore Fassitt, Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1869; Civil War veteran; aged 78; died suddenly, March 12, of heart disease.

Frank P. Gillis ⊕ Lake Helen, Fla.; Missouri Medical College, St. Louis, 1876; formerly a practitioner in Illinois; aged 68; died, March 12, following a long illness.

William Earley Burtless ⊕ St. Clair, Mich.; University of Michigan Medical School, Ann Arbor, 1878; proprietor of the St. Clair Hospital; aged 76; died, March 11.

⊕ Indicates "Fellow" of the American Medical Association.

creating at Montevideo an office headed by Professor Ricaldoni, which will have charge of correlating medical curriculums and establishing exchange of professors, and which will publish a journal with abstracts of all Latin American work on medicine and medical pedagogy. The next conference will be held at Buenos Aires in May, 1925.

HOLLAND

(From Our Regular Correspondent)

March 3, 1923.

The Campaign Against Diphtheria

The public health authorities of the Netherlands recommend the launching of a more active campaign against diphtheria. The royal serologic institute has on hand an adequate supply of toxin-antitoxin, which has been placed under the control of Professor Spronck, who has also succeeded in preparing a toxin the judicious use of which appears absolutely harmless to persons under examination. The minister of labor has authorized the free distribution of this toxin and of the toxin-antitoxin mixture to physicians who wish to apply the Schick test and immunization under the direction of the public health officer of the district. The purpose of the latter stipulation is, partly, the unification of methods, and, secondly, the securing of information that will make it possible to perfect the methods. Every physician who, on his own responsibility, may wish to employ vaccines prepared in a different manner is likewise, and for the same reasons, requested to take advantage of the cooperation of the public health officer.

Mortality Among Women

Dr. Sanders has published the results of his inquiry into the mortality statistics of married and unmarried women in Rotterdam. From the standpoint of social hygiene, this inquiry presents considerable interest for the reason that the statistics are quite extensive, covering, as they do, the period from 1913 to 1921. It appears from his report that the mortality among unmarried women, from 20 to 49 years of age, is 4.97 per thousand, whereas the mortality of married women is 5.65 per thousand. But the relation of the two figures is entirely reversed when we consider the mortality from tuberculosis, which, among the causes of death, was the most frequent. The mortality rate from tuberculosis among the unmarried women was 2.25 per thousand; among the married women it was only 1.58 per thousand. One peculiar fact is revealed when we compare the mortality rates during recent years; namely, that, during the years of the war, mortality from tuberculosis among unmarried women increased enormously as compared with the rate found among married women.

Tumors in the Dutch East Indies

An excellent study on the pathology of tumors in the Dutch East Indies has been presented by Drs. Guyders and Stroub to the Nederlandsche vereeniging voor tropische geneeskunde. Some general points deserve to be noted in this communication, more particularly the frequency of malignant tumors. The Javanese and Chinese coolies in the Dutch East Indies are affected by malignant tumors at least as much as persons inhabiting European countries. The writer does not seem to accept the aphorism of Hoffmann to the effect that the frequency of cancer diminishes as one approaches the equator. Certain peculiarities with respect to the classification of tumors are very remarkable. For instance, primary carcinoma of the liver is extremely frequent not only among the Chinese but also among the Javanese, occurring in 90 per cent. of the cases of cirrhosis of the liver. Cancer of the stomach is common in the Chinese but rare in the Javanese. In spite of the multiplicity of intestinal affections in the tropical countries, malignant tumors of the gastro-intestinal tract are very rare. Melanomas and uterine fibromas are seldom found.

Ceremonies in Honor of Pasteur

Like most countries, Holland also was pleased to celebrate the hundredth anniversary of the birth of Pasteur. The Société hollandaise pour le progrès de la médecine appointed a committee to plan and take charge of the ceremonies, which were held at Amsterdam. Drs. Jaeger, Kluyver and Spronck referred in their addresses to the threefold scientific activity of the great savant: chemical, microbiologic and pathologic. Dr. Calmette, assistant director of the Pasteur Institute in Paris, reviewed the principal events in the life of this eminent Frenchman. In the museum of the hygienic laboratory, an exhibition of engravings, relics and apparatus pertaining to the life of Pasteur was held. The committee also collected subscriptions toward the erection of the contemplated Pasteur monument at Strasbourg.

The Plague in the East Indies

The Koloniaal Verslag of 1922 contains some interesting facts on the subject of the cases of plague observed during 1921 in the Dutch East Indies. There had been only a few cases up to the middle of the year, but after July they increased until the incidence was five times what it had been at the beginning of the year, reaching the climax in December, in which month 1,800 cases were reported.

Organization of the Fight Against Tuberculosis

The government commission charged with the organization of the fight against tuberculosis has continued its important work, which includes the campaign against insanitary dwellings, the introduction of better methods of discovering the cases that exist, the amelioration of living conditions, and prophylaxis through education and through the adoption of stricter hygienic measures. In a supplement to its publications it outlines the methods employed in the fight against tuberculosis in the Netherlands. All the powers are centralized in the minister of public health. He has as his aids an inspector and a committee, composed of members of the Council of Hygiene, which is organized for the purpose of securing information. The organizations which are the effective factors in the fight against tuberculosis are formed by the local societies, with their offices of consultation, which are under the jurisdiction of the inspector and keep in close touch with the hygienic services of the district and with the directors of these services. Besides these services scattered all over the country, it is necessary to create an institute for scientific research in the field of tuberculosis. In addition, in the principal town of every district it is well to organize a central bureau of consultation with a modern, up-to-date equipment, much more complete than the consultation offices that function in each locality.

Marriages

Frank Van Doren, Seaside, Ore., to Miss Josie L. Housken of San Francisco, February 3.

G. W. Wainwright to Miss Edith Anderson, both of London, Ont., Canada, January 17.

Ernest W. Zumstein to Miss Margaret Vail, both of Delhi, Ont., Canada, recently.

Madison J. Keeney, Phoenix, Ariz., to Miss Cecile Boyd of Los Angeles, February 15.

Claude Mosley Baker, Minden, La., to Miss Lily Posner of New Orleans, March 20.

Oliver Bernard Simon to Miss Edith Burr Baker, both of Batavia, Ill., recently.

Correspondence

CAUTION IN USE OF MERCUROCHROME-220 SOLUBLE

To the Editor:—Mr. E. J., who had been receiving injections of a 2 per cent. solution of mercurochrome-220 soluble into the bladder twice a week, complained of severe burning and inability to retain the solution, and stated that he would refuse further treatment unless the inconvenience could be controlled.

I then injected into the bladder 1 ounce (30 c.c.) of a 5 per cent. solution of procain, followed in five minutes by 1½ ounces (45 c.c.) of mercurochrome-220 soluble. He left the office in a few minutes without any discomfort. Three hours later he returned unable to urinate. I passed a No. 22 French catheter and withdrew 8 ounces (235 c.c.) of urine, together with numerous pieces of solidified mercurochrome. The catheter became plugged, so I withdrew it and introduced a 26 French metal evacuating catheter and proceeded to clean the bladder. Innumerable pieces of solidified mercurochrome were evacuated, but, as the process became very painful to the patient, I stopped and filled the bladder with 6 ounces (175 c.c.) of a 1 per cent. solution of sodium carbonate, which he retained for one hour. He urinated freely, and the solution was highly crimson with dissolved mercurochrome. I irrigated the bladder twice a day for three days; finally the solutions remained colorless. Later, cystoscopy revealed the bladder clear.

CHARLES E. STOLZ, M.D., Los Angeles.

"THE INTRACUTANEOUS GUINEA-PIG TEST FOR HUMAN SUSCEPTIBILITY AND IMMUNITY TO DIPHTHERIA"

To the Editor:—The tendency to attach names to surgical procedures, to clinical phenomena and to various laboratory tests is exemplified by the second paper of Dr. W. H. Kellogg (THE JOURNAL, March 17, 1923, p. 748) describing a "new" test for immunity to diphtheria. This test is a modification of the old established method of Römer's for the intradermal demonstration in the guinea-pig of small amounts of diphtheria antitoxin contained in human serum. Ten years ago I used successfully a similar but more accurate modification of this test, which I described later (*J. Infect. Dis.* **19**:557 [Oct.] 1916).

These antitoxin tests were made by me to establish some of the fundamental principles in the active immunization with toxin-antitoxin before Dr. Park and I introduced the Schick test as a part of the process of active immunization against diphtheria. We were only too glad to discard the routine use of the intradermal test in the guinea-pig, and to adopt the Schick test. This test is well known now for its great simplicity and extreme reliability when properly carried out. It is a direct test on the human being instead of a roundabout and complicated one in the guinea-pig. The very reliability of the Schick test, which has been confirmed now by many observers in different countries, is proof of its value. The so-called "Kellogg" test is simply a crude application of my own modification of Römer's method.

Dr. Kellogg's suggestion has one advantage, that when a physician does not know the Schick test and wishes to determine the presence or absence of antitoxin in an occasional child, "Kellogg's" application of "Zingher's" modification of Römer's test is of practical value.

Some of the objections that Dr. Kellogg raises to the Schick test are overdrawn. After making the test on more than 200,000 children in this city, I have become thoroughly convinced that the Schick reaction is the method of choice in simplicity and reliability for the testing not only of large numbers but also of a single individual. It is up to the physician to demand from the manufacturing laboratories reliable Schick outfits and to learn the simple technic of the test and its interpretation. He will then not have to take samples of blood from his patients and depend on central laboratories for his knowledge whether these patients are susceptible or immune to diphtheria. He will also not have to fear the various sources of error that may so easily creep in to render the intradermal guinea-pig test unreliable and untrustworthy in its results.

ABRAHAM ZINGHER, M.D., New York.
Assistant Director, Bureau of Laboratories,
New York City Department of Health.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DOSAGE OF BETANAPHTHOL AND OF CARBON TETRACHLORID

To the Editor:—What is the dosage of (1) betanaphthol and (2) of carbon tetrachlorid?

OSWALD O. KAFER, M.D., Edward, N. C.

ANSWER.—1. The dose of betanaphthol given in the U. S. Pharmacopeia is 0.25 gm. (4 grains). The dose used by Leach and Hampton (THE JOURNAL, Jan. 6, 1923) in the treatment of hookworm disease was 3.25 gm. (50 grains) in powdered form, administered on an empty stomach and without purge.

2. The dose of carbon tetrachlorid as used by Lambert in the treatment of hookworm disease (THE JOURNAL, Feb. 24, 1923) was 0.2 c.c. (3 minims) for each year of age up to 15 years. Adults were given from 3 to 4 c.c. (45 to 60 minims); with this dosage a total of 42,000 cases was treated without untoward results. There were three fatalities, however, in the last 8,000 of their 50,000 cases. While it was assumed that these deaths were due to using an impure drug, Lambert says, it is possible that the dose, as noted, is larger than is desirable. Smillie and Pessoa (*Am. J. Hygiene*, January, 1923) caution that larger doses than 3 c.c. are unnecessary and may be dangerous. Alcoholics are stated to be especially susceptible to the toxic effects of the drug, and partially intoxicated persons or those recovering from drunkenness should not be treated.

INTESTINAL TRICHOMONIASIS

To the Editor:—I should like to know the details of Escomel's treatment for intestinal trichomoniasis.

M.D., Necaxa, Mexico.

ANSWER.—Escomel has described two treatments for intestinal trichomoniasis in his book "La Tricomonosis Intestinal." In the one that he prefers, for three days a tablespoonful of this prescription is taken every two hours: pure oil of turpentine, from 2 to 4 gm.; camphorated tincture of opium, from 6 to 12 gm.; acacia, 120 gm.; syrup of acacia, 30 gm. Diet is restricted to carbohydrates, and liquid ingestion to rice water. In addition, from one to three enemas are given, alternated as follows: first, an evacuating injection; second, a retention enema comprising 4 spoonfuls of boiled water, a beaten egg yolk, 10 drops of tincture of opium and from 15 to 30 drops of oil of turpentine. After three days' treatment a fecal examination is made. If *Trichomonas* is not found, all treatment ceases and the diet is gradually changed to normal. If cysts are found but no living organisms, the treatment is continued, the dosage of oil of turpentine being gradually decreased until the cysts finally vanish. If there are living protozoa besides cysts, the treatment is pushed until *Trichomonas* disappears. Escomel has also used with success turpentine in keratin capsules. (See also abstract, THE JOURNAL, March 17, 1919, p. 1501.)

Escomel insists on the value of correct diagnosis, as the treatment must be modified, if the infection is mixed.

Ulrich H. Hon, Los Angeles; University of Louisville Medical Department, Louisville, 1875; aged 72; was instantly killed by an electric train at Alhambra, March 15.

Samuel W. Fariss, Lafayette, Ga.; University of Tennessee College of Medicine, Memphis, 1878; member of the Medical Association of Georgia; aged 68; died, March 12.

Robert Newton Greenfield ✠ Springboro, Pa.; University of Michigan Medical School, Ann Arbor, 1869; Civil War veteran; aged 80; died, March 11, of myocarditis.

Alonzo O. Blair, Pittsburg, Kan.; St. Louis Medical College, St. Louis, 1877; member of the Kansas Medical Society; aged 69; died, March 17, following a long illness.

Ernest T. Horton, Whitehall, N. Y.; New York Homeopathic Medical College, New York, 1881; aged 54; died, March 16, of epidemic (lethargic) encephalitis.

Robert H. Scott, New Westminster, B. C., Canada; Queen's University Faculty of Medicine, Kingston, Ont., 1905; aged 41; died, January 23, following a long illness.

Arthur Wilson Taylor, Glendale, Calif.; Medical Department of Columbia College, New York, 1880; captain, M. C., U. S. Army, retired; aged 66; died, March 8.

Louise Erich, Baltimore; Woman's Medical College of Baltimore, 1895; emeritus professor of orthopedic surgery at her alma mater; aged 60; died, March 6.

Elijah Wooley, Saybrook, Ill.; Hahnemann Medical College and Hospital, Chicago, 1880; Civil War veteran; aged 80; died, March 14, of cerebral hemorrhage.

Lewis S. Walter, Fife Lake, Mich.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1876; aged 74; died, March 13, of cerebral hemorrhage.

Orville Nalle, Elkwood, Va.; University of Virginia Department of Medicine, Charlottesville, 1884; aged 60; died, February 18, of cerebral hemorrhage.

D. Edgar Hutchison ✠ Downington, Pa.; Medico-Chirurgical College of Philadelphia, 1905; aged 40; died, March 12, following a long illness.

John A. Brown, Belgique, Mo.; Barnes Medical College, St. Louis, 1898; member of the Missouri State Medical Association; aged 46; died, January 12.

Alfred T. Livingston ✠ Jamestown, N. Y.; University of Buffalo (N. Y.) Department of Medicine, 1873; aged 73; died, February 18, at Baltimore.

Elias La Fontaine Burnham, Millbrook, Cnt., Canada; University of Toronto Faculty of Medicine, Toronto, 1865; aged 80; died, February 9.

Luther Reeve Hallock ✠ New York; New York University Medical College, New York, 1888; aged 74; died, March 18, of carcinoma of the liver.

Charles T. Kennedy ✠ Greenville, Texas; Georgetown University School of Medicine, Washington, D. C., 1892; aged 50; died, March 11.

James Dunlavy, Maramee, Okla.; College of Physicians and Surgeons, Keokuk, Iowa, 1870; Civil War veteran; aged 75; died, March 7.

Henry T. Knapp, Sackville, N. B., Canada; McGill University Faculty of Medicine, Montreal, Que., 1895; aged 51; died, January 31.

John D. Herman ✠ Conde, S. D.; Medical College of Ohio, Cincinnati, 1886; also a druggist; aged 64; died, February 24, of pneumonia.

John M. Linegar, Fairfield, Ind.; Louisville Medical College, Louisville, Ky., 1894; aged 61; died, March 12, of cerebral hemorrhage.

Harvey Shaw Clerke, Toronto, Ont., Canada; Victoria University Medical Department, Toronto, 1883; aged 70; died, March 22.

Dewitt F. Eskew, Poplar Bluff, Mo.; University of Tennessee College of Medicine, Memphis, 1877; aged 74; died, February 14.

Thomas Hazen Humphreys ✠ Kissee Mills, Mo.; Drake University College of Medicine, Des Moines, 1884; aged 59; died recently.

J. C. Wells, East Stone Gap, Va. (licensed, years of practice); Civil War veteran; aged 79; died, March 11, of acute indigestion.

Frank Campbell, Hepworth, Ont., Canada; Trinity Medical College, Toronto, 1885; aged 64; died, January 30.

Eugene Stanley Hay, Wyoming, Pa.; Detroit Medical College, Detroit, 1881; aged 64; died, March 17.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

OWL ENAMEL TOILET CREAM

A Poisonous Cosmetic Sold with No Warning to the Public

"Owl Enamel Toilet Cream" manufactured by the Owl Drug Co. of Kansas City, Mo., is sold for the alleged purpose of "Beautifying the Complexion and Rendering the Skin Soft and Velvety." The jar in which this preparation comes bears a label reading:

"Think of a remedy having the power of summoning instantly to the face and neck the color and brilliancy of youth! Just what you want to use before going to the theatre or shopping, as it may be applied as often as you choose during the day it gives the face instantly a soft beautiful flush and brilliancy."

Some months ago Dr. Henry W. Woltman of Rochester, Minn., sent to THE JOURNAL a report[1] of a case of lead poisoning in a woman who had been using Owl Enamel Cream. With his report Dr. Woltman sent an opened and partly used specimen of the preparation which he stated, on analysis, had showed a very high lead content. At the time Dr. Woltman's article was ready for publication in THE JOURNAL, the Propaganda department obtained from the Owl Drug Company of Kansas City some original unopened packages of Owl Enamel Cream which were submitted to the A. M. A. Chemical Laboratory for a more exhaustive analysis. The laboratory reported:

LABORATORY REPORT

An original, unopened package of Owl Enamel Toilet Cream (Pink), manufactured by the Owl Drug Co., Kansas City, Mo., was submitted to the A. M. A. Chemical Laboratory for analysis. No information was given on the label concerning the composition of the preparation. The package contained a pink, perfumed mass, having about the consistency of fresh putty. On standing the preparation became harder and apparently drier. Qualitative tests indicated the presence of a lead compound, a calcium compound, a carbonate, glycerin and traces of phosphate, iron and some substance insoluble in nitric acid which was probably talc. Bismuth salts, mercury salts, zinc salts, casein, fats, lanolin, petrolatum or starch, substances sometimes found in face creams, were absent. Analysis indicated that the composition of the preparation is essentially as follows:

Lead carbonate (basic)	42.5 per cent.
Calcium carbonate	40 per cent.
Glycerin	7 per cent.
Insoluble matter (probably talc)	0.5 per cent.
Iron, phosphate and coloring	traces
Water (by difference)	10.0 per cent.

It is evident from this analysis, therefore, that Owl Enamel Toilet Cream (Pink) is composed essentially of lead carbonate, calcium carbonate and glycerin.

The indiscriminate sale of a preparation of this sort is not merely a menace to the public health but a commentary on the laxity of our laws. It is notorious that certain salts of lead have for years been responsible for cases of chronic lead poisoning, due to their employment in cosmetics. As Peterson and Haines in their Text-Book of Legal Medicine and Toxicology said twenty years ago "the use of 'flake white' as a cosmetic has caused every form of chronic lead poisoning." In spite of this any concern, responsible or irresponsible, can sell for the indiscriminate use of the girls and women of the country a cosmetic loaded down with this poisonous ingredient, and they are not required to give any hint as to the potential dangers nor even to declare the presence of the poison.

1. Woltman, H. W.: Lead Poisoning from Face Enamel, J. A. M. A. **80**: 1685 (Nov. 11) 1922.

Memphis Hospital Medical College	(1908)	77.6*
University of Tennessee	(1920) 81.2, (1921)	87.2
Baylor University	(1912)	78.3
University of Tomsk, Siberia	(1915)†, ‡	84.8
FAILED		
Flint Medical College of New Orleans University	(1910)	61.6
Meharry Medical College	(1915) 63.7, (1917) 58.5, (1921)	70.4

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Northwestern University		(1921)	Tennessee
Tulane University		(1903) Mississippi, (1907)	Alabama
Columbia University		(1914)	Mississippi
University of Texas		(1917)	Texas

* This candidate was given 14 per cent. credit for 14 years of practice.
† Graduation not verified.
‡ Temporary license granted until completion of citizenship.

Oregon July Examination

Dr. Urling C. Coe, secretary, Oregon State Board of Examiners, reports the written and practical examination held at Portland, July 4, 1922. The examination covered 12 subjects and included 106 questions. An average of 75 per cent. was required to pass. Of the 21 candidates examined, 12 including 1 osteopath, passed and 9, including 5 osteopaths, failed. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Rush Medical College		(1920)	2
Harvard Medical School		(1922)	1
Creighton University		(1921)	1
University of Oregon		(1922)	7
Osteopath			1
FAILED			
Loyola University		(1919)	1
St. Louis College of Physicians and Surgeons		(1914)	1
University of Oregon		(1921) 1, (1922)	1
Osteopaths			5

Book Notices

BRONCHOSCOPY AND ESOPHAGOSCOPY. A Manual of Peroral Endoscopy and Laryngeal Surgery. By Chevalier Jackson, M.D., F.A.C.S. Professor of Laryngology, Jefferson Medical College. Cloth. Price, $5.50 net. Pp. 345, with 118 illustrations. Philadelphia: W. B. Saunders Company, 1922.

In this work the author has combined brevity, thoroughness, detail, simplicity and a clear style with the judgment that comes to one after years of careful work in a given field. The result is an excellent reference book on endoscopic proceedings, taking up in detail the necessary equipment, its care and intelligent use, and the endoscopic anatomy of the respiratory and upper digestive systems, and calling attention to the important structures affecting endoscopic proceedings. The author omits nothing that must be remembered if the welfare of the patient is not to be jeopardized, discussing the preparation of the patient, the anesthetic to be used, and the ever present danger of respiratory arrest, which may call for tracheotomy. He is constantly reminding amateur endoscopists of the danger from overenthusiastic but misguided endoscopic proceedings, and suggests at least 200 hours of practice as the minimum before attempting the removal of a foreign body from a patient. This practice may be secured with a rubber tube manikin or by means of dogs, and any foreign body problem should be solved in this way before it is attempted on a patient. One should not telegraph for a set of instruments and expect to remove a foreign body from a bronchus immediately after receiving it. The result will probably be fatal. Symptomatology and pathology of foreign bodies in the respiratory and digestive tract are discussed, and the author describes in detail his method of passing endoscopes, and of direct laryngoscopic examination. He also gives many concrete illustrations of the solution of foreign body problems. A small amount of space is given to the value of endoscopic methods in the removal of foreign bodies from the pleural cavity, especial mention being made of drainage tubes lost during the treatment of empyema. Considerable space is given to the consideration of benign and malignant neoplasms of the respiratory and upper digestive tracts, with a discussion of the symptoms, etiology, pathology, prognosis and treatment. Here, as in the removal of foreign bodies, the motto of the endoscopist must be, "I will do no harm." Diseases of the esophagus and trachea, other than neoplastic, are discussed, and their relation to endoscopy emphasized. Gastroscopy is also touched on. Laryngeal stenosis, both acute and chronic, with the treatment, forms the closing chapters of the book. The indications and method for tracheotomy, decannulation, and treatment of stricture following intubation are discussed in detail. Any one planning to do endoscopic work would do well to study carefully the many important aphorisms in this volume.

PATHOLOGY: GENERAL AND SPECIAL FOR STUDENTS OF MEDICINE. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of Bacteriology in the University of London. Fifth edition. Cloth. Price, 18 shillings net. Pp. 531, with illustrations. Philadelphia: Lea & Febiger, 1923.

The book is divided into nineteen chapters; the first nine deal with general pathology, the last nine with special pathologic anatomy, and Chapter 10 takes up diseases of the endocrine organs and abnormalities of internal secretion. The student is offered an enormous amount of detailed information in highly condensed form. Here and there are statements that should be eliminated because not of enough value to occupy the space, as, for instance, this from page 435: "In one remarkable case recorded by Paget an apparently pure cartilaginous tumor [of the testicle] gave rise to secondary cartilaginous growths in the vena cava and lungs, and was described as a 'malignant enchondroma.' It was reexamined by Kanthack and Pigg forty years later [1897], and found to be in reality a carcinoma." In view of the large field the book covers, the accuracy with which it reflects the present knowledge of pathology is noteworthy. As examples of improvements and corrections for future editions, attention may be called to the present inadequate consideration of teratoma of the testis and its derivatives, and to the incorrect statement on page 104 that the opsonins of normal serum differ from immune opsonins in being nonspecific and heat-labile. The illustrations, all microscopic, are good.

CATALOGO DELL OFFICINA ORTOPEDICA DELL ISTITUTO RIZZOLI IN BOLOGNA. Boards. Pp. 115, with 248 illustrations. Bologna: Istituto Rizzoli.

Since the foundation of the Rizzoli Institute, an orthopedic laboratory has been connected with it, and since the close of the war this laboratory has been greatly enlarged. In the first exposition of appliances at Bologna in 1917, and in the interallied sanitary conference in Paris, London and Rome in 1917, 1918 and 1919, the laboratory figured among the best, and it was given the title of the "National Laboratory of Artificial Appliances." During 1920, the laboratory produced 8,500 cast apparatus, 6,100 lower extremity appliances and 2,100 various other orthopedic appliances. The laboratory has also furnished various civil and military hospitals with complete outfits for mechanotherapy and thermotherapy, and with orthopedic appliances and surgical instruments. The laboratory produces orthopedic appliances for locomotion, physiotherapy apparatus, artificial limbs, surgical instruments, plaster models and casts. As a rule, the artificial arms are made of celluloid or hard rubber, but in some cases wood and metal are used. For the lower extremity most appliances are made of wood. To protect the wood from moisture it is covered with cow hide and then varnished. These products then have the advantage of lightness, resistance and beauty. There are illustrations of orthopedic apparatus for amputated limbs and deformities of the extremities and vertebral column, of physiotherapy apparatus and of surgical instruments designed by V. Putti.

LA RACHICENTESI ED IL LIQUIDO CEFALO-RACHIDIANO. Por F. Bonola. Paper. Price, 12,00 lire. Pp. 190. Bologna: L. Cappelli, 1922.

The author describes in a simple way the various methods of examining the arachnoid fluid. Different forms of puncture to obtain the fluid are discussed. As the book is intended primarily for practical use, no bibliographic references are given. There are no illustrations. Physicians familiar with Italian will find the book a useful and reliable guide to the examination of the arachnoid fluid for clinical purposes.

NOURISHMENT OF THE MUSCLES

To the Editor:—Please tell me how the nerves nourish the muscles. Is it by the blood? Why do the muscles not shrink more? The paralyzed muscle shrinks away from one-third to one-half its volume—why does it not continue to shrink if it is the only cause? Have the vasomotor nerves anything to do with it? Or the medulla oblongata?

D. O., Urbana, Ohio.

Answer.—The muscles obtain their nourishment directly from the blood as it circulates through them. A healthy nerve is, however, necessary for the health of the muscle, for the reason that when the stimulation of the muscle stops, as it does when the nerve is cut or otherwise interrupted, the muscle cells no longer have work to do and rapidly atrophy and disappear. The amount of wasting depends on the degree of loss of function, and this is completely lost only when the peripheral nerve is gone. If the paralysis is due to damage to the connections which exist between the brain and the peripheral nerve, the muscle can no longer be set in action through the will, but it can still be stimulated through the lower reflex centers in the spinal cord. Under these circumstances there is some loss of use and slight wasting. But when the peripheral nerve is gone, no stimulation at all is possible and the muscle wastes away entirely. Partial wasting to the extent mentioned by our correspondent is usually due to the fact that the nerve fibers to the particular muscles are not all interrupted. The vasomotor nerves go to the unstriped muscles of the walls of the blood vessels and assist in the regulation of the size of the vessel, and thus help in the control of the blood supply to the voluntary muscles. The medulla oblongata contains the cell bodies of some of the cranial nerves (the peripheral nerves of the tongue, face and lips, and also those which move the jaws). Damage in this part of the nervous system would therefore cause atrophy of the corresponding muscles, just as damage in the spinal cord will result in atrophy of the limb muscles that happen to be supplied from nerve cells lying in the part of the cord damaged.

ZONITE

To the Editor:—The subject "Zonite" was referred to me . . . to find out its true germicidal value. . . . I understand it is a trade name for what was formerly known as the Carrel-Dakin solution, except the new product is supposed to be much stronger and now used as a disinfectant for iceboxes, etc. It is in view of the latter that I am writing to you to ask for a report on Zonite.

D. H. S., New York.

To the Editor:—Will you kindly inform me as to the action of the Council on the preparation "Zonite," manufactured by the Zonite Products Company of New York. I have had numerous inquiries from patients as to its value.

C. W. Fridy, M.D., Philadelphia.

Answer.—Zonite was first put on the market in 1916, the firm at that time being called the "Foose Chemical Co.," Dayton, Ohio. Later it was advertised as a typical "patent medicine," the firm name being the "Zonite Products Co.," New York. Zonite is exploited as a new and wonderful discovery, based on the "Carrel-Dakin" solution; according to the advertisements which have appeared within the last year, it took six years after the announcement of the "Carrel-Dakin" solution before certain defects could be overcome, and the new product "Zonite" could be presented. This, of course, is quite at variance with the fact that Zonite was known in 1916. The propaganda for Zonite is, in effect, a capitalization of the work of Carrel-Dakin and others. The write-up purports to be that of the chemist who "perfected the process," but the name of the chemist is not given.

Chemically, Zonite, after dilution with an equal part of water, is claimed to be essentially the same as Surgical Solution of Chlorinated Soda (Carrel-Dakin) of New and Nonofficial Remedies. The action and uses of Surgical Solution of Chlorinated Soda, N. N. R., have been fully discussed in medical literature.

Zonite has been exploited to both the physician and the public. It has not been submitted to the Council on Pharmacy and Chemistry.

RELATIVE WEIGHT OF PARTS OF BODY

To the Editor:—Kindly inform me what percentage of the total weight of a normal man his upper leg, lower leg, foot, trunk, upper arm, lower arm, hand and head represent.

E. L. Todd, Jersey City, N. J.

Answer.—The relative weight of the parts of the body of a normal man, according to Vierordt (Anatomische, physiologische und physikalische Daten und Tabellen, Jena, Gustav Fischer, 1906, p. 32) is: upper leg, 13.25; lower leg, 5.2; foot, 2.17; trunk, 54.845; upper arm, 3.833; lower arm, 2.15; hand, 1; the entire body, 118.46.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, May 8-9. Sec., Dr. J. W. Walker, Fayetteville.

District of Columbia: Washington, April 10. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.

Illinois: Chicago, April 10-12. Director, Mr. A. M. Shelton, Springfield.

Massachusetts: Boston, May 14-16. Sec., Dr. Charles E. Prior, State House, Boston.

National Board of Medical Examiners: Written examinations in Class A medical schools. Parts I and II, June 25-27, and June 28-29. Parts I and II, September 24-26, and September 27-28. Secretary, Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Application for these examinations must be made on or before May 15.

Nevada: Carson City, May 7. Sec., Dr. S. L. Lee, Carson City.

Oklahoma: Oklahoma City, April 10-11. Sec., Dr. J. M. Byrum, Shawnee.

Virginia December Examination

Dr. J. W. Preston, secretary, Virginia State Board of Medical Examiners, reports the written examination held at Richmond, Dec. 5-8, 1922. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Ten candidates were examined, all of whom passed. Thirteen candidates were licensed by reciprocity. The following colleges were represented:

College	Passed	Year Grad.	Per Cent.
Howard University	(1920)	84, (1921)	83.5
University of Maryland		(1922)	84
Cornell University		(1922)	84, 85.5
Jefferson Medical College		(1922)	87.9
Medical College of Virginia	(1917)	87.8, (1922)	85.9
University of Virginia	(1921)	85.9, (1922)	91.3

College	Licensed by Reciprocity	Year Grad.	Reciprocity with
Howard University		(1908)	Dist. Colum.
Emory University		(1915)	Alabama
Loyola University		(1918)	Illinois
College of Physicians and Surgeons, Baltimore		(1895)	Penna.
Johns Hopkins University		(1920)	Maryland
University of Maryland		(1921)	Maryland
Albany Medical College		(1899)	New York
Jefferson Medical College	(1908)	Pennsylvania, (1920)	W. Virginia
Medical College of the State of South Carolina		(1921)	S. Carolina
University of Tennessee		(1915)	Oklahoma
Vanderbilt University		(1916)	Florida
University of Virginia		(1921)	N. Carolina

South Carolina November Examination

Dr. A. Earle Boozer, secretary, South Carolina State Board of Medical Examiners, reports the written examination held at Columbia, Nov. 14-16, 1922. The examination covered 18 subjects and included 90 questions. An average of 75 per cent. was required to pass. Six candidates were examined, all of whom passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	Passed	Year Grad.	Per Cent.
Cornell University		(1917)	89
University of Oklahoma		(1915)	79.5
Jefferson Medical College		(1918)	87.7
University of Tennessee	(1898)	86.7, (1905)	75.7
McGill University, Quebec		(1904)	81.2

College	Licensed by Reciprocity	Year Grad.	Reciprocity with
Tulane University		(1921)	Alabama, Louisiana

Louisiana December Examination

Dr. Roy B. Harrison, secretary, Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Dec. 7-9, 1922. The examination covered 12 subjects, and included 100 questions. An average of 75 per cent. was required to pass. Of the 16 candidates examined, 12 passed and 4 failed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	Passed	Year Grad.	Per Cent.
Tulane University	(1921) 87.2, (1922)	82.8, 85.5, 86.3,	86.3
University of Maryland		(1917)	90.6
Meharry Medical College		(1922)	82.4

Page 943 comes just before p 1027.

Medicolegal

Infliction of Death Penalty by Use of Lethal Gas

(State v. Gee Jon et al. (Nev.), 211 Pac. R. 676)

The Supreme Court of Nevada holds, in this homicide case, that the statute of that state of 1921, which provides that the judgment of death shall be inflicted by the administration of lethal gas, is not unconstitutional on the ground of imposing cruel or unusual punishment. The court says that the revulsion on the part of many to the idea of execution by the administration of gas is due to an erroneous impression. The average person looks on the use of gas with horror, because of the experiences incident to the late war. They forget that there are many kinds of gas, ranging from the harmless nonpoisonous tear gas, which may be used for the quelling of a mob, and the ordinary illuminating gas, which may produce painless death, to the highly poisonous gas which sears and destroys everything with which it comes in contact. It may be said to be a scientific fact that a painless death may be caused by the administration of lethal gas. That suffering and torture may be inflicted by its administration is no argument against it. It must be presumed that the officials intrusted with the infliction of the death penalty by the use of gas will administer a gas which will produce no such results, and will carefully avoid inflicting cruel punishment. That they may not do so is no argument against the law. The court thinks it fair to assume that the legislature, in enacting the law, sought to provide a method of inflicting the death penalty in the most humane manner known to modern science.

Validity of Ordinances Requiring Vaccination

(Zucht v. King et al. (U. S.), 43 Sup. Ct. R. 24)

The Supreme Court of the United States, in dismissing a writ of error, says that ordinances of the city of San Antonio, Texas, provided that no child or other person should attend a public school or other place of education without having first presented a certificate of vaccination. Purporting to act under those ordinances, public officials excluded Rosalyn Zucht from a public school because she did not have the required certificate and she refused to submit to vaccination. They also caused her to be excluded from a private school. Thereupon, she brought this suit against the officials in a court of the state. The bill charged that there was then no occasion for requiring vaccination; that the ordinances deprived the plaintiff of her liberty without due process of law, by, in effect, making vaccination compulsory; and also that they were void, because they left to the board of health discretion to determine when and under what circumstances the requirement should be enforced, without providing any rule by which that board was to be guided in its action, and without providing any safeguards against partiality and oppression. The prayers were for an injunction against enforcing the ordinances, for a writ of mandamus to compel the admission of the plaintiff to the public school, and for damages. A general demurrer to the bill of complaint was sustained by the trial court; and, the plaintiff having declined to amend, the bill was dismissed. This judgment was affirmed by the court of civil appeals; and an application for a writ of error to the Supreme Court of Texas was denied by that court. Now the case was before the Supreme Court of the United States on a writ of error, it being assigned as error that the ordinances violated the due process of law and equal protection clauses of the Fourteenth Amendment to the Constitution of the United States, and that as administered they denied to the plaintiff equal protection of the laws.

But, although the validity of a law was formally drawn in question, long before this suit was instituted, *Jacobson* v. *Massachusetts*, 197 U. S. 11, 25 Sup. Ct. 358, had settled that it is within the police power of a state to provide for compulsory vaccination. That case and others had also settled that a state may, consistently with the federal constitution, delegate to a municipality authority to determine under what conditions health regulations shall become operative; and still others had settled that the municipality may vest in its officials broad discretion in matters affecting the application and enforcement of a health law. A long line of decisions by this court had also settled that in the exercise of the police power reasonable classification may be freely applied, and that regulation is not violative of the equal protection clause merely because it is not all-embracing. In view of these decisions, this court finds in the record no question as to the validity of the ordinance sufficiently substantial to support the writ of error. These ordinances conferred, not arbitrary power, but only that broad discretion required for the protection of the public health.

The bill of complaint contained averments to the effect that in administering the ordinance the officials had discriminated against the plaintiff in such a way as to deny to her equal protection of the laws. These averments presented a substantial constitutional question. But the question was not of that character which entitles a litigant to a review by this court on writ of error. The question did not go to the validity of the ordinance; nor did it go to the validity of the authority of the officials. This charge was of an unconstitutional exercise of authority under an ordinance that was valid. Unless a case is otherwise properly before this court on writ of error, questions of that character can be reviewed by this court only on petition for a writ of certiorari.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Mobile, April 17-20. Dr. H. G. Perry, State Board of Health, Montgomery, Secretary.

American Association for Thoracic Surgery, Chicago, May 28-29. Dr. Charles Gordon Heyd, 46 W. 52d Street, New York City.

American Association of Physicians, Atlantic City, May 1-3. Dr. Thomas McCrae, 1929 Spruce Street, Philadelphia, Secretary.

American Bronchoscopic Society, Atlantic City, May 9. Dr. William B. Chamberlin, Osborn Building, Cleveland, Secretary.

American Climatological and Clinical Association, Niagara Falls, Ont., May 23-25. Dr. Arthur K. Stone, Framingham Center, Mass., Sec'y.

American Gastro Enterological Association, Atlantic City, April 30-May 1. Dr. Arthur F. Chace, 525 Park Ave., New York, Secretary.

American Gynecological Society, Hot Springs, Va., May 21-23. Dr. A. H. Curtis, 104 South Michigan Avenue, Chicago, Secretary.

American Laryngological Association, Atlantic City, May 16-18. Dr. George M. Coates, 1811 Spruce Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 10-12. Dr. W. H. Haskin, 40 E. 41st St., New York, Sec'y.

American Pediatric Society, French Lick, Ind., May 31-June 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Society for Clinical Investigation, Atlantic City, April 30. Dr. James H. Means, 15 Chestnut Street, Boston, Secretary.

American Urological Association, Rochester, Minn., May 21-23. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Ind., Secretary.

Connecticut State Medical Society, New Haven, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Associaton of, Savannah, May 2-4. Dr. Allen H. Bunce, Healey Building, Atlanta, Secretary.

Hawaii, Medical Society of, Honolulu, April 28-30. Dr. W. K. Chang, Honolulu, Secretary.

Illinois State Medical Society, Decatur, May 15-17. Dr. W. D. Chapman, Silvis, Secretary.

Iowa State Medical Society, Ottumwa, May 9-11. Dr. T. B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Kansas City, May 2-4. Dr. J. F. Hassig, 800 Minnesota Avenue, Kansas City, Secretary.

Louisiana State Medical Society, New Orleans, April 24-26. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 24-26. Dr. J. A. Chatard, 1211 Cathedral Street, Baltimore.

Mississippi State Medical Association, Vicksburg, May 8-9. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Joplin, May 8-10. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.

Nebraska State Medical Association, Lincoln, May 14-17. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.

New Hampshire Medical Society, Concord, May 23-24. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

North Carolina, Medical Society of the State of, Asheville, April 17-19. Dr. L. B. McBrayer, Sanatorium, Secretary.

North Dakota State Medical Association, Grand Forks, May 31-June 1. Dr. H. J. Rowe, Lisbon, Secretary.

Ohio State Medical Association, Dayton, May 1-3. Mr. D. K. Martin, 131 East State Street, Columbus, Secretary.

South Carolina Medical Association, Charleston, April 17-19. Dr. Edgar A. Hines, Seneca, Secretary.

Tennessee State Medical Association, Nashville, April 10-12. Dr. Larkin Smith, 154 Eighth Avenue, N., Nashville.

Texas, State Medical Association of, Fort Worth, May 8-10. Dr. Holman Taylor, 207½ W. 11th Street, Fort Worth, Secretary.

Western Electro-Therapeutic Association, Kansas City, Mo., April 19-20. Dr. Charles Wood Fassett, 115 E. 31st Street, Kansas City, Secretary.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

February, 1923, **165**, No. 2

*Clinical Investigation of Tropical Sprue. B. K. Ashford, San Juan, Porto Rico.—p. 157.
*Total Circulating Volume of Blood and Plasma in Cases of Chronic Anemia and Leukemia. N. M. Keith, Baltimore.—p. 174.
Case of Multiple Myeloma. G. McConnell, Cleveland.—p. 184.
*Occupational Sensitization to Castor Bean. H. S. Bernton, Washington, D. C.—p. 196.
Diagnosis of Obscure Chronic Abdominal Conditions. J. L. Ransohoff, Cincinnati.—p. 202.
Diagnosis of Spleen Function. M. H. Kahn, New York.—p. 214.
*Autolysate-Precipitin Reaction in Typhoid Fever. J. L. Laird, J. R. Conover and D. C. A. Butts, Philadelphia.—p. 241.
*Thrombosis of Coronary Arteries, with Infarction of Heart. J. T. Wearn, Boston.—p. 250.
*Hematemesis in Nephritis. H. F. Shattuck, New York.—p. 276.

Clinical Investigation of Tropical Sprue.—Of 616 cases of sprue, 453 were examined by Ashford by laboratory methods and 85 per cent. yielded a positive finding for *Monilia psilosis*. Of 259 cases of glandular deficiency, 124 were examined by laboratory methods and all were negative for *Monilia psilosis;* the rest were not examined in the laboratory. All of the phenomena in the syndrome of glandular insufficiency were more frequent and, clinically, far more vivid in sprue, generally about double that of the former condition. But the salient point is found in that in sprue the tongue lesions are more than fifteen times, and the frank diarrhea more than five times as frequent as in glandular insufficiency. In fact, the strictly classical raw tongue and white, frothy diarrhea were never found in glandular insufficiency.

Volume of Blood and Plasma in Chronic Anemia and Leukemia.—Wide variations in blood and plasma volume were observed by Keith in twenty-four patients presenting definite evidence of chronic disease of the blood forming organs. These variations were sometimes noted in the same patient. In certain cases of chronic anemia there was a striking increase in the volume of plasma; in others, a normal plasma volume. In all cases the blood volume was normal or reduced. In cases of chronic anemia no exact relationship could be determined between the amount of plasma and the hemoglobin percentage, although in individual cases these varied somewhat inversely with one another. An experiment in vitro on the blood of a patient with splenomyelogenous leukemia failed to show that any appreciable amount of the dye, vital red, is taken up by the leukocytes. In chronic leukemia the blood volume is almost invariably increased. The plasma volume often reaches a high value, especially in the splenomyelogenous type. In chronic leukemia no definite relationship could be demonstrated between the basal metabolic rate and the variations in blood or plasma volume.

Occupational Sensitization to Castor Bean.—Bernton narrates the case of a chemist who in the course of his occupation acquired a sensitiveness to the dust of the castor bean. Attacks of sneezing and of asthma were the clinical manifestations of this sensitiveness. The fat-free castor meal produced an urticarial wheal at the site of a superficial scratch on the forearm. A cutaneous reaction was obtained with a drop of the protein solution of the meal in a dilution of 1:250,000. Symptoms of protein intoxication resulted from the absorption of extracts of the castor meal from skin abrasions. The presumptive evidence indicates that the globulin fraction possesses antigenic properties, and that exposure to organic dust in industries may cause an acquired sensitiveness. Cutaneuous testing with the suspected material would be of value in diagnosis and treatment.

Autolysate-Precipitin Reaction in Typhoid Fever.—The autolysate-precipitin reaction described by Laird and others is dependent on the determination of the existence of the autolyzed typhoid bacilli in the excretions of the patient by means of a typhoid-immune rabbit serum, in direct contrast to the older method which depended on a precipitin reaction in the serum of the suspected patient by means of a known typhoid solution. The reaction showed clearly positive in all carriers and in cases of typhoid fever up to the fifty-sixth day of the disease. The carriers were active for many years, one for eighteen years. The bacteriologic diagnosis was positive in only about 6 per cent. of known typhoid cases. Apparently, the autolysate-precipitin reaction is distinctly more sensitive and accurate than any of the previous methods of typhoid determination. The technic is described in detail.

Thrombosis of Coronary Arteries.—Wearn analyzed nineteen cases of this affection, cases in which the clinical diagnosis was confirmed by a necropsy. He uses the findings to reconstruct the clinical picture of a typical case.

Hematemesis in Nephritis.—A case of severe hematemesis is reported by Shattuck, due, as far as could be ascertained, to chronic nephritis with hypertension. A review of the literature shows several reports of this rather unusual complication, but gives no uniform conclusions about the cause or pathology of this symptom.

American Journal of Physiology, Baltimore

February, 1923, **63**, No. 3

Supposed Relation of Suprarenals to Reflex Volume Changes in Denervated Limb. G. N. Stewart and J. M. Rogoff, Cleveland.—p. 436.
Unusual Appearances of Nucleated Erythrocytes in Circulation Following Repeated Injections of Splenic Extract. N. B. Eddy and A. W. Downs, Edmonton, Canada.—p. 479.
Absorption from Intestine and Excretion Through Kidney of Unaltered Complex Protein Substance, Tissue Fibrinogen. C. A. Mills, S. E. Dorst, G. Mynchenberg and J. Nakayama, Cincinnati.—p. 484.
Effect of Potassium Cyanid on Metabolism in Two Fresh Water Arthropods. W. C. Allee, Chicago.—p. 499.
Effect of Restricted Diet. I. On Growth. J. R. Slonaker and T. A. Card, Palo Alta, Calif.—p. 503.
*Variations of Blood Sugar of Rabbit Throughout the Day and Effect of Subcutaneous Injection of Glucose. G. S. Eadie, Toronto, Canada.—p. 513.
Concentration of Sugar in Blood of Rabbit During Inanition and After Ingestion of Glucose. E. L. Scott and T. H. Ford, New York.—p. 520.
*Direct Influence of Blood of Parathyroid Tetany Animals on Excitability of Motor Nerves. C. Jacobson, Chicago.—p. 535.
Occurrence of Citric Acid in Sweat. C. D. Leake, Madison, Wis.—p. 540.
Proof that High Protein Diet Increases and Starvation Decreases Catalase Content of Entire Animal. W. E. Burge, Urbana, Ill.—p. 545.
Living Peritoneum as Dialyzing Membrane. T. J. Putnam, Baltimore.—p. 548.
Effects of Epinephrin on Heart of Common Bull-Frog (Rana Catesbiana). C. I. Reed and E. Smith, Lawrence, Kan.—p. 566.
Heat Liberated by Beating Heart. IV. C. D. Snyder, Baltimore.—p. 583.

Diurnal Variation in Blood Sugar of Rabbit.—When 1 gm. glucose per kilogram of body weight is injected subcutaneuously into rabbits, Eadie found that there is a sharp rise, reaching its maximum in one half hour and reaching normal in about three hours. This is followed by a smaller secondary rise. Hypoglycemia does not occur. With subcutaneous doses of 2 gm. glucose the rise is much greater but the variation in the height to which the curve rises is also much greater. The curve then falls for from three to five hours, shows a slight secondary rise and returns in about seven hours to a value near the normal. This study was made in connection with the study on the effect of insulin.

Effect of Parathyroid Tetany Blood on Motor Nerves.—The results obtained by Jacobson are interpreted as supporting the theory of a chemical change in the tetany blood directly affecting nerve excitability. But before such data can be accepted as proving this point, Jacobson says it must be shown that the results are not due to temperature change in the transfused leg.

American Journal of Roentgenology and Radium Therapy, New York

February, 1923, **10**, No. 2

*Studies of Mechanism of Movement of Mucous Membrane of the Digestive Tract. G. Forssell, Stockholm, Sweden.—p. 87.
Importance of Indirect Roentgen Ray Findings in Chronic Infection of Biliary Ducts and Gallbladder. M. P. Burnham, San Francisco.—p. 105.
Roentgen Ray Study of Absorption of Tuberculous Exudate Within Lung. K. Dunham and V. V. Norton, Cincinnati.—p. 112.
Deep Roentgen Ray Therapy. R. Morton, London, England.—p. 119.
*Case of Double Spontaneous Pneumothorax. C. P. Emerson and R. C. Beeler, Indianapolis.—p. 126.

Anatomic Cross Section Charts in Estimating Roentgen Ray Dosage. A. U. Desjardins, Rochester, Minn.—p. 134.
Injuries from Roentgen Rays in Deep Therapy. H. Wintz, Erlangen, Germany.—p. 140.
Radium Treatment of Cancer of Esophagus; Review of Forty-Four Cases. R. W. Mills and J. B. Kimbrough, St. Louis.—p. 148.
Treatment of Superficial Cancer. D. T. Quigley, Omaha.—p. 161.
History Chart for Radium Therapy C. Chase, Brooklyn.—p. 163.
Two Important Points from Radium Therapist's Standpoint Regarding Cancer Immunity. C. Chase, Brooklyn.—p. 167.

Mechanism of Movement of Mucous Membrane of Digestive Tract.—Forssell states that the folds of the mucous membrane of the colon, as well as those of the stomach, duodenum and small intestines, are not modeled by a contraction of the muscular coat only, but by autonomous appropriate movements of the mucous membrane. The folds of the mucous membrane do not consist of passive structures, but represent a momentary state of movement. The whole rigid whorl of folds and furrows becomes alive and proves to be formed by independent motor forces which may be of great importance for the mechanical regulation of the digestion. It is apparent that the complicated relief of the intestinal mucous membrane not only forms a passive depository for digestion and resorption of the food, but also constitutes a mechanism with a subtle and wonderful organization for regulation of the chemistry of digestion. The muscular tube of the digestive tract and the special motor mechanism of the mucous membrane collaborate in the mechanism of digestion. The movements of the muscular coat determine the rough division and the large displacements of the contents of the stomach and the intestines. The movements of the mucous membrane produce an extremely differentiated distribution and restraining of the food in digestive chambers of varying form and size, and procure the fine regulation of the current by the passage of the contents in the alimentary canal. The rôle that disturbances of the motor mechanism of the mucous membrane may be playing in the pathology of the alimentary tract has not yet been investigated.

Case of Double Spontaneous Pneumothorax.—Emerson and Beeler report what they believe to be the only case on record of double pneumothorax due to emphysema.

Annals of Surgery, Philadelphia

February, 1923, **77**, No. 2

*Regeneration of Meninges. I. Dura Mater. W. Y. Sayad and S. C. Harvey, New Haven, Conn.—p. 129.
Chronic Empyema. C. Eggers, New York.—p. 142.
Inguinal Hernia in Male. Late Results in 978 Traced Cases. S. Erdman, New York.—p. 171.
*Improved Technic for Gastrectomy and Gastro-Enterostomy. L. Freeman, Denver.—p. 190.
Limitations of Ochsner Treatment in Certain Cases of Suppurative Peritonitis. J. H. Jopson and D. B. Pfeiffer, Philadelphia.—p. 194.
Spontaneous Intraperitoneal Rupture of Bladder. J. F. Geisinger, Richmond, Va.—p. 206.
Mechanism of Formation of Urinary Calculi. L. D. Keyser, Rochester, Minn.—p. 210.
Skin Grafting by Exact Pattern: Report of Cosmetic Results Obtained Without the Employment of Sutures. B. Douglas, New Haven, Conn. —p. 223.

Regeneration of Meninges.—Defects in the dura of the dog, operatively induced by Sayad and Harvey, without injury to the adjacent arachnoid, healed rapidly in from one to two weeks and without the formation of adhesions.

Improved Technic for Gastrectomy and Gastro-Enterostomy.—The special equipment used by Freeman consists of two mattress needles, a foot or so in length (long needles used in the manufacture of mattresses and to be obtained in most hardware stores); four Allis forceps and several ordinary rubber bands about one-eighth inch in width. In gastro-enterostomy, after exposure of the stomach and jejunum, a fold is picked up from each with the Allis forceps and brought alongside of each other in the position in which they are to be united. A mattress needle is then placed well down on either side of these folds, pressing them closely together into two prominent opposed pouches, such as are formed when forceps are used. While the needles are held in place by an assistant, a rubber band is wound around their ends on either side, tightly enough to bring the elasticity of the bands into play, and clamped with forceps. The operation is then completed in the usual manner.

Archives of Internal Medicine, Chicago

February, 1923, **31**, No. 2

*Protein Feeding and High Blood Pressure. S. Strouse and S. R. Kelman, Chicago.—p. 151.
Relation Between Hemoglobin, Cell Count and Cell Volume in Venous Blood of Normal Human Subjects. H. C. Gram and A. Norgaard, Copenhagen.—p. 164.
*Toxic Manifestations Following Alkaline Treatment of Peptic Ulcer. L. L. Hardt and A. B. Rivers, Rochester, Minn.—p. 171.
Simple Immersion Electrode for Taking Clinical Electrocardiograms. H. E. B. Pardee, New York.—p. 181.
*Paroxysmal Ventricular Tachycardia. C. C. Wolferth and T. M. McMillan, Philadelphia.—p. 184.
*Surgical Treatment of Angina Pectoris. W. B. Coffey and P. K. Brown, San Francisco.—p. 200.
Fatty Degeneration of Heart. A. M. Master, New York.—p. 221.
*Intrapericardial Rupture of Aortic Aneurysm in Boy Sixteen Years of Age. De W. G. Richey, Pittsburgh.—p. 232.
Blood Sugar Standards. Part I. Normal and Diabetic Persons. H. Gray, Boston.—p. 241 .
Blood Sugar Standards. Part II. In Conditions Neither Normal Nor Diabetic. H. Gray, Boston.—p. 259.
Intracutaneous Reactions in Lobar Pneumonia to Pneumotoxin. C. Weiss and J. A. Kolmer, Philadelphia.—p. 263.
Value of Index and Angle of Bordet-Vaquez in Cardiac Examination. D. S. Dann, Boston.—p. 269.
*Pathologic Physiology of Polycythemia Vera. R. Isaacs, Cincinnati. —p. 289.
*Etiology of Acute Intestinal Intoxication in Infants. G. L. Boyd, Toronto.—p. 297.

Protein Feeding and High Blood Pressure.—A careful study made by Strouse and Kelman of a number of patients has shown that marked variations in blood pressure occur in patients with hypertension and with slight or no impairment of renal function. Such variations bear no relation to the intake of protein food. In such cases no damage to renal function and no increase in nonprotein nitrogen or urea nitrogen of the blood was found to follow protein feeding up to 150 gm. daily. In three such cases strong stock soup and coffee, given daily, did not increase blood pressure. In cases of frank progressive nephritis with hypertension, a diminution of protein intake, sufficiently marked to lower the figures for blood nonprotein nitrogen and urea, did not cause lowering of the blood pressure. The experiments reported add further evidence to that already accumulated to prove the existence of a clinical entity characterized by a primary hypertension. They further suggest that variations in blood pressure in this condition result from vasomotor disturbances.

Toxic Manifestations Following Alkaline Treatment of Peptic Ulcer.—Forty-eight patients with peptic ulcer, the diagnosis in each case being confirmed by roentgenograms, were studied by Hardt and Rivers. They found that patients with duodenal ulcer who were treated by the Sippy method may develop definite symptoms of toxemia associated with renal changes, increased blood urea, and normal or increased carbon dioxid combining power of the plasma. The gastric acidity during the period of toxemia is usually normal or there is hyperacidity. In fact, patients with duodenal ulcer and renal complications are more inclined to develop these toxic manifestations and to a much greater degree.

Paroxysmal Ventricular Tachycardia.—Four cases of paroxysmal ventricular tachycardia are reported by Wolferth and McMillan, one with auricular mechanism of normal type and three with auricular fibrillation. The electrocardiographic findings through which the diagnosis was arrived at in these cases are discussed. Emphasis is placed on the value for diagnosis, when the auricles are fibrillating, of comparing the relations of coupled beats to the onsets of paroxysms. The literature is reviewed and from the study of the cases previously reported together with those here presented, the following data have been assembled: (*a*) Twenty-two cases have thus far been reported in which electrocardiograms justify the diagnosis of paroxysmal ventricular tachycardia. (*b*) During paroxysms, the following types of auricular action have been recognized: (1) normal mechanism; (2) retrograde auricular beats; (3) auricular flutter, and (4) auricular fibrillation. (*c*) Slight irregularity of rhythm just after the onset of paroxysms is not unusual. It may also occur just before the offset. (*d*) In about half the cases reported, none of the paroxysms observed exceeded five minutes in length. The longest paroxysm reported apparently lasted for eleven days. In long paroxysms, severe cardiac failure usually occurs. (*e*) Profound myocardial disease is

usually associated. Other disturbances of the cardiac mechanism are remarkably frequent. Eleven of the twenty-two patients are known to have died shortly after coming under observation. (*f*) Short paroxysms occurring during auricular fibrillation may cause the ventricles to behave in a manner simulating auricular flutter and lead to a mistaken diagnosis of flutter. (*g*) The results from quinin and quinidin in treatment have been promising, but further observations are necessary in order to determine whether or not these drugs are of real value in this condition.

Surgical Treatment of Angina Pectoris.—Sympathectomy was done by Coffey and Brown in five cases of angina pectoris, two of them presumably being due to syphilitic aortitis. Death occurred in one case. Marked improvement was noted in the remaining four cases. In view of the obstinate and painful nature of the symptom angina pectoris, the relief following operation in these cases seems to the authors sufficient to warrant further trial of this or similar operative procedures.

Intrapericardial Rupture of Aortic Aneurysm.—In the case reported by Richey there was no evidence of syphilis or mycosis. No coarctation of the aorta could be found, but there was a uniform narrowing of the aortic arch just beyond the aneurysm of the ascending limb, which was regarded as a hypoplasia associated with status thymicolymphaticus. The author failed to find a similar case recorded in the literature.

Case of Polycythemia Vera.—A case of polycythemia vera with an unusually high red cell count is reported by Isaacs. Counts at intervals during three years varied from 7,360,000 to 15,940,000.

Etiology of Acute Intestinal Intoxication in Infants.—Boyd asserts that extracts of intestinal mucous membrane from cases of acute intestinal intoxication in children contain a toxic substance, which, when injected into animals, produces a definite symptom complex, consisting of depression and narcosis, anorexia, circulatory failure, increase in the number of intestinal evacuations, and in some cases convulsions and death. Younger animals were much more susceptible to this toxic substance than older ones. The toxin is not destroyed by boiling and passes through a bacteria tight filter. Boiled aqueous extracts of fresh stools proved nontoxic when injected into animals. Systemic blood from cases of acute intestinal intoxication was slightly toxic when injected into animals. Portal blood from patients was very toxic. No distinctive pathologic findings were seen in any of the fatal cases.

Boston Medical and Surgical Journal

March 1, 1923, **188**, No. 9

*Prevention and Control of Diphtheria. B. Schick, Vienna.—p. 255.
Traumatic Third Degree Laceration of Perineum in a Female Child Seven Years Old. L. E. Phaneuf, Boston.—p. 258.
Injuries to Spleen. E. H. Pool, New York.—p. 262.
Hare-Lip. W. E. Ladd, Boston.—p. 270.
Tuberculous Cervical Adenitis in Children. J. S. Stone, Boston.—p. 272.
Ventriculoscopy and Puncture of Floor of Third Ventricle. W. J. Mixter, Boston.—p. 277.

Prevention and Control of Diphtheria.—Discussing the therapy of diphtheria, Schick comes to the following conclusions: The injection of serum must be made as early as possible. Every hour of delay may be harmful and is particularly dangerous in severe cases in which the quantity of toxin produced in the throat is considerable. In all mild and medium cases 100 antitoxin units per kilogram of body weight are sufficient. In severe cases 500 antitoxin units per kilogram of body weight are to be injected. Repeated injections should be omitted as superfluous. Fifty antitoxin units per kilogram of body weight suffice for immunization. A slight improvement in the curative results may be achieved by intravenous injection; this may be repeated in dangerous cases.

Traumatic Laceration of Perineum in Female Child.—Phaneuf's patient was impaled on an iron picket fence. Examination showed a laceration extending through the hymen, the vaginal mucosa, the levator ani muscles and the external sphincter; the rectal mucous membrane was intact. The rectum could be seen bulging between the torn perineal muscles with each deep inspiration.

Canadian Medical Association Journal, Toronto

February, 1923, **13**, No. 2

Importance of the Emotional or Psychic Nature of People in General in Practice of Medicine in Its Widest Sense. A. McPhedran, Toronto.—p. 82.
Aches and Pains of Renal Origin. A. Fullerton, Belfast, Ireland.—p. 85.
*Study of One Hundred Cases of Chorea with Particular References to Cardiac Complications. G. F. Strong, Vancouver, B. C.—p. 92.
Tetany. S. G. Ross, Montreal.—p. 97.
Acute Leukemia in a Child Aged 6 Years. F. F. Tisdall, Toronto.—p. 104.
Diagnosis and Treatment of Hyperthyroidism. H. W. Riggs, Vancouver.—p. 106.
*Case of Primary Sarcoma of Heart. L. G. Pinault, Campbellton, N. B.—p. 108.
A New Cysto-Urethroscope for Examining and Operating on Any Part of Urinary Tract by Direct-Telescope or Indirect-Periscope Methods. G. S. Gordon, Vancouver, B. C.—p. 110.
Industrial Medicine. B. L. Wyatt, Grand Mere, Que.—p. 114.
Case of Septic Arthritis in an Infant. A. M. Forbes, Montreal.—p. 118.

Study of Chorea with Particular References to Cardiac Complications.—There were sixty-six females and thirty-four males, a ratio of two to one in the group of 100 cases analyzed by Strong. The average age was 13.3 years, the oldest patient being 23 and the youngest 4 years old. There was a history of definite acute rheumatic fever in 20 per cent. of the cases. In addition there were fourteen patients who gave a history of joint pains, bringing the total possible cases of preceding rheumatism up to 34 per cent. Scarlet fever occurred in the past history in 18 per cent. of these cases, but in only one instance did the attack of scarlet fever seem to bear any relation to the chorea. Tonsillitis occurred in 34 per cent. of these cases. There was a positive blood Wassermann in 11.6 per cent. of the patients. In four cases in this series there was an absolutely negative past history. In eighteen cases the onset of the disease dated from some sudden fright. There were forty-five instances with organic cardiac disease; in every case these was involvement of the valves; in a few cases there was further cardiac damage, such as pericarditis or actual myocarditis. There was only one case of pericarditis in this series. Partial or complete heart block occurred in only one case, or 2.2 per cent. of those patients of whom electrocardiograms were taken. In 29 per cent. of the patients in this study there had been recurrences of chorea. The incidence of cardiac disease was higher in these twenty-nine cases than in the group as a whole or in the cases without previous chorea. In the whole group, 45 per cent. of patients had cardiac disease; the twenty-nine patients with previous chorea, fifteen, or 51.7 per cent., had heart disease; and in the seventy-one cases with only one attack of chorea, thirty, or 42.2 per cent., had a diagnosis of organic cardiac disease on their discharge from the hospital. The incidence of cardiac disease was much increased in those patients who had had acute rheumatic fever. Of twenty such cases, fourteen, or 70 per cent., had heart disease, while of the remaining eighty cases only thirty-one, or 38.7 per cent., had cardiac involvement. The occurrence of tonsillitis did not seem to increase the incidence of cardiac disease. Of the forty patients with temperatures over 99 F., twenty-two, or 55 per cent., had organic disease. Only 38.3 per cent. of the sixty patients with temperatures of 99 F. or less had organic disease. The occurrence of an elevation of temperature during an attack of chorea would seem therefore to increase slightly the likelihood of cardiac involvement. Of the forty-five patients in this whole series who developed organic heart disease only twenty-two had temperatures over 99 F. In the forty-five cases of organic cardiac disease the mitral valve was involved in forty-four and the aortic valve in only five cases.

Primary Sarcoma of Heart.—The symptoms in Pinault's case were: generalized edema, marked dyspnea and a disturbance of digestion. The first symptoms began two months previously with dyspnea, and swelling of the lower limbs and abdomen. The patient was a female, aged 47. Her personal and family history was good. The diagnosis was made of myocarditis with the probability of a mediastinal tumor interfering with venous blood return. The patient died four weeks after entering the hospital. The postmortem examination disclosed a tumor, the size of a hen's egg, completely filling

the right auricle. The left auricle, both ventricles and the valves were apparently normal. It proved to be a round cell sarcoma.

Florida Medical Association Journal, St. Augustine and Jacksonville

January, 1923, **9**, No. 7

Catatonic Dementia Praecox; Physiotherapeutics, and Results Obtained in Twenty Cases. D. C. Main, Washington, D. C.—p. 113.
Physician as Business Man. L. A. Bize, Tampa.—p. 118.
Medical Practitioner and American Society for Control of Cancer. J. E. Rush.—p. 121.

Georgia Medical Association Journal, Atlanta

February, 1923, **12**, No. 2

Use of Radium in Treatment of Cancer of Cervix. O. D. Hall, Atlanta.—p. 45.
Treatment of Leukemia by Means of Roentgen Ray. J. W. Landham, Atlanta.—p. 51.
Review of Six Months' Experience with Radium. W. L. Cooke, Columbus.—p. 54.
Roentgen-Ray Treatment of Uterine Hemorrhage and Fibroid Tumors. Review of Literature and Report of Cases. J. S. Derr, Atlanta.—p. 56.
Roentgen-Ray Treatment. W. F. Jenkins, Columbus.—p. 64.
Cancer of Lip; Treatment by Radium and Surgery Combined. C. K. Wall, Thomasville.—p. 67.
Cancer of Stomach. Report of Case. C. W. Roberts, Atlanta.—p. 69.
Secondary Effect of Scoliosis on Internal Organs. T. Toepel, Atlanta.—p. 77.

Indiana State Medical Association Journal, Ft. Wayne

February, 1923, **16**, No. 2

Differential Diagnosis of Meningitis. C. F. Neu, Indianapolis.—p. 33.
Treatment of Meningitis. M. F. Porter, Jr., Fort Wayne.—p. 36.
Otitic Meningitis. H. B. Snee, South Bend.—p. 37.
Endonasal Operation on Lacrimal Sac. W. B. Chamberlin, Cleveland.—p. 42.
Gallbladder Surgery. S. J. Young, Gary.—p. 50.

Wisconsin Medical Journal, Milwaukee

February, 1923, **21**, No. 9

Neuroses and the Chronic Invalid. H. T. Patrick, Chicago.—p. 387.
*Challenge of Chronic Heart Patient to Medical Profession. R. H. Babcock, Chicago.—p. 391.
Relationship of Cardiovascular Renal Disease to Chronic Invalid. A. R. Elliott, Chicago.—p. 393.
Value of Blood Chemistry in Clinical Diagnosis. B. C. Ford, Minneapolis.—p. 397.
Intra-Ocular Manifestations in Various Brain Conditions Associated with Brain Pressure and Modus Operandi by Which These Manifestations are Brought About. J. A. Bach, Milwaukee.—p. 401.
Pseudo-Exophthalmic Goiter. Report of Case. A. S. Jackson, Madison.—p. 412.
Case of Pellagra in Wisconsin. H. E. Marsh, Madison.—p. 413.

The Chronic Heart Patient.—Babcock directs attention to that large number of patients who come to the physician because alarmed by unwonted pain or other sensation in the region of the heart or on account of a sudden attack of palpitation, so-called. Either of these sensations may occur alone or the precordial pain may be accompanied or followed by rapid or irregular heart action. In all such instances it should not be concluded that heart disease is present until convinced by careful inquiry into the history and by the discovery of indubitable evidence of a cardiac defect. The etiologic factor may be some toxic agent producing an intercostal neuritis or upsetting cardiac action through the vagus. Therefore, before assuming the heart to be at fault and telling the patient his pumping apparatus is responsible, the toxin or other disturbing factor should be sought for and removed. The cause may reside in diseased tonsils or teeth or digestive tract in cases of nerve irritation or in some agent introduced into the system from without, such as the abuse of tea, coffee, tobacco and (nowadays rarely) alcoholic beverages. Palpitation has been found in women the direct result of visceroptosis or pelvic displacements. The point particularly emphasized by Babcock is that not only is it seldom necessary but usually unwise to send the patient to bed. Physicians should be careful never to frighten the patient even should auscultation disclose a systolic murmur. It is not uncommon for a systolic bruit to appear during the disordered cardiac action and then to disappear when the heart has become quiet and regular. In short, the psychical management is as essential, often more essential, than is rest, digitalis and other commonly employed therapeutic measures.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Experimental Pathology, London

February, 1923, **4**, No. 1

Complement Fixation Test in Coccidiosis of Rabbit. S. W. Patterson.—p. 1.
*Influence of Vitamin A on Blood Platelets of Rat. S. P. Bedson and S. S. Zilva.—p. 5.
*Variations in Some of Urinary Constituents and Alveolar Carbon Dioxid Tension in Relation to Meals. E. C. Dodds.—p. 13.
*Testing the Antigenic Value of Diphtheria Toxin-Antitoxin Mixtures. A. T. Glenny, K. Allen and B. E. Hopkins.—p. 19.
"Gastrin" Content of Human Pyloric Mucous Membrane. S. E. Ammon and R. K. S. Lim.—p. 27.
Schick Test and Active Immunization. R. A. O'Brien, A. J. Eagleton, C. C. Okell and M. Baxter.—p. 29.
Diagnostic Value of Rabbit Inoculation in Encephalitis Lethargica. J. McIntosh.—p. 34.

Influence of Vitamin A on Blood Platelets.—The findings of Bedson and Zilva reveal the fact that young growing rats when deprived of vitamin A show a slightly lower platelet count than do normal rats. In those experiments in which consecutive counts were made, the general tendency of the platelet count is in the direction of a diminution, but even here, accepting the experimental error as 10 per cent., only four out of the six rats show a fall beyond this limit. The greatest diminution was 244,000. The authors are not convinced that this minimal change in the platelet count could not be produced by other dietetic deficiencies.

Effect of Meals on Urinary Constituents.—By examining specimens of urine before and after meals, Dodds found that the first meal of the day was followed by a decrease in the excretion of acid and ammonia calculated per hour. This alkaline tide lasted from one to two hours, and was followed by a period of increased excretion of acid and alkali per hour. This acid tide lasted for about two hours, the period of the whole meal effect taking roughly from four to five hours. The changes following lunch were obscured, in the majority of cases, by the acid tide of the breakfast. Diurnal origin of these variations was excluded by starvation experiments. In view of these results, the alkaline tide was associated with gastric secretion and the acid tide with pancreatic secretion. The p_H of the urine was found to rise after a meal, and to fall later.

Antigenic Value of Diphtheria Toxin-Antitoxin Mixtures.—Evidence is brought forward by Glenny and his associates to show that the toxicity test alone may give incomplete or erroneous conclusions as to the immunizing value of a toxin-antitoxin mixture intended for immunization against diphtheria. Four methods are described for testing the antigenic value of mixtures: (*a*) Tracing the antitoxic value of the blood of rabbits after a single subcutaneous injection of the mixture as a "primary stimulus." (*b*) Accelerating the results of (*a*) by a subsequent injection, as a "secondary stimulus," of either the same mixture or of a Schick dose of toxin. (*c*) Tracing the increase in antitoxic values of the blood of immune rabbits after a subcutaneous injection of the mixture as a secondary stimulus. (*d*) Injecting guinea-pigs, which have survived the test for toxicity of the mixture, with Schick doses of diphtheria toxin at weekly intervals commencing three weeks after the injection of the mixtures.

British Medical Journal, London

Feb. 24, 1923, **1**, No. 3243

*Aches and Pains of Renal Origin. A. Fullerton.—p. 309.
Certain Diseases of the Cow and Their Interest to the Physician. F. Hobday.—p. 313.
*Scientific Basis for Nonspecific Protein Therapy. A. J. Clark.—p. 315.
*Diastase in Blood and Urine in Diabetes Mellitus. G. A. Harrison and R. D. Lawrence.—p. 317.
Brachial Neuritis Due to Cervical Rib. W. Wrangham and J. Phillips.—p. 319.
*Asthma and Suprarenal Inadequacy. T. Drummond.—p. 320.
Thyrofissure for Malignant Disease in Man Aged Seventy-Four. W. J. Harrison.—p. 322.
*Primary Union After Operation for Suppurative Appendicitis. R. G. Riddell.—p. 322.
Osteitis of Temporal Bone with Meningitis. H. L. Whale.—p. 323.
Fatal Thrombo-Arteritis of Right Middle Cerebral Artery of Uncertain Causation. F. P. Weber.—p. 324.

*Rupture of Renal Artery and Vein by Slight Injury: Operation: Recovery. E. M. Atkinson.—p. 324.

Aches and Pains of Renal Origin.—As causes of renal pain Fullerton discusses renal calculus, tuberculous kidney, pyelitis, hydronephrosis and pyonephrosis, renal tumors, hematuria, movable kidney, carcinoma of the bladder, a papilloma at a ureteral orifice, an enlarged prostate or stricture of the urethra, certain forms of chronic nephritis, infarcts, hydatid cyst in which small cysts are sometimes passed, other cysts of the kidney, and horseshoe kidney. The idea running through this address is that the pain is due in a large proportion of cases to distention of the renal pelvis. Treatment should be directed toward removing the cause, and involves, in some instances, ablation of the kidney. In selected cases it may be possible to relieve the patient by interrupting the nerves carrying the painful impressions.

Scientific Basis for Nonspecific Protein Therapy.—Discussing the changes observed in the blood during nonspecific protein therapy, Clark says, that the bulk of the evidence points to the fact that nonspecific protein therapy causes a washing out of the tissue fluids into the blood, and that this process causes a number of changes in the composition of the blood. The evidence at present available is insufficient to indicate which of the changes observed is really of chief clinical importance.

Diastase in Blood and Urine in Diabetes Mellitus.—Estimations of diastase simultaneously in the blood and urine have been made by Harrison and Lawrence in fifty-five cases of diabetes and in a large number of controls, due attention being paid to the reaction of the urine, the diet, etc. The findings are in support of those investigators who have concluded that the presence of amylase is more or less accidental and of little or no value in the diagnosis, prognosis, or treatment of diabetes mellitus.

Asthma and Suprarenal Inadequacy.—Evidence is presented by Drummond to support the theory that inadequate suprarenal function is the cause of asthma.

Primary Union After Operation for Suppurative Appendicitis.—Of seven cases of suppurative appendicitis in which Riddell used flavine, 1:1,000 solution, the incision healed by primary union except in one case, in which the tissues were soaked with purulent fluid as soon as the peritoneum was incised, and the operation was of long duration and the patient weak. Violet green, iodin and eusol were tried in other cases but failed to affect primary union.

Rupture of Renal Artery and Vein by Slight Injury.—Atkinson's patient fell while playing cricket and pushed his elbow into his left side. The pain was very slight, and he thought so little of the accident that he continued playing. The next day his side was stiff and painful, and he was passing blood in his urine all day. Because of symptoms of peritoneal involvement, a laparotomy was performed. There was no peritonitis. The abdominal wound was closed and the kidney exposed from the loin. It was found to be a very large hydronephrosis in which virtually no kidney tissue was left. It was removed. An examination of the kidney showed a hydronephrosis due to a congenitally narrowed ureteric strait, the kidney substance being almost nonexistent. On searching for the renal vessels they were found, not in the piece of tissue which had been ligatured, but torn off close to the kidney just below this. The injury had apparently been sufficient to tear through both vessels, and the resulting hemorrhage had ceased spontaneously.

Journal of Pathology and Bacteriology, Edinburgh

January, 1923, **26**, No. 1

*Relation of Vitamin C to Bacterial Infection. G. M. Findlay.—p. 1.
Complement Fixation Reaction in Liver Fluke (Fasciola Hepatica, L.) Infection. N. H. Fairley and F. E. Williams.—p. 19.
*Pathology of Schistosomiasis (S. Hematobium and S. Mansoni) in Human Subject. H. R. Dew.—p. 27.
Case of Symmetrical Cortical Necrosis of Kidneys Occurring in an Adult Man. J. Bamforth.—p. 40.
*Further Stage in Fatty Change Occurring in Cell Degeneration, Resulting in Production of Deeply Pigmented Bodies. E. Emrys-Roberts and H. A. Haig.—p. 46.
Differential Medium for Streptococci. H. W. Crowe.—p. 51.
Desiccation of Serum and Other Protein Solution; Special Reference to Reagents Used in Wassermann Reaction. P. Hartley, A. J. Eagleton and C. C. Okell.—p. 53.
Properties of Dried Complement with Reference to Its Use in Wassermann Reaction. C. H. Browning and E. M. Dunlop.—p. 66.
*Relation Between Appendicitis, Oxyuris Vermicularis and Local Eosinophilia in Appendix Wall. E. H. Eastwood.—p. 69.
*Foreign Body Tubercles on Serous Coat of Stomach, Caused by Escape of Particles of Oat Seed. T. Shennan.—p. 82.
Herpetic Meningo-Encephalitis in Rabbits. C. Da Fano.—p. 85.
Tomato Extract as Culture Medium. C. E. Jenkins.—p. 116.
Making Dilutions of Antiserums. J. S. C. Douglas.—p. 118.
Serum Constituents Responsible for Sachs-Georgi and Wassermann Reactions. T. J. Mackie.—p. 120.
Alterations in Morphologic and Biologic Characters in Streptococcus Group Brought About in Vivo- (1) Streptococcus Mucosus; (2) Chronic Pneumococcus Infections. C. H. Browning and R. Gulbransen.—p. 121.
Influence of Colon Bacillus on Growth of Bacillus Typhosus, with Special Reference to Enrichment by Brilliant Green in Typhoid Carriers. R. P. Smith.—p. 122.

Relation of Vitamin C to Bacterial Infection.—The results of Findlay's experiments with four species of bacteria seem to show that guinea-pigs fed on a diet deficient in vitamin C succumb to a smaller infecting dose of bacteria than animals fed on a complete diet. The symptoms of toxemia are manifested more rapidly in scorbutic than in control guinea-pigs either because the tissues, especially the heart, are more susceptible to the action of bacterial toxin or because in scorbutic animals there is more toxin formed by the bacteria as a result of some rupture in the defense mechanism of the body. It has long been known that degeneration in the hemopoietic bone marow is associated with a reduced resistance to bacterial infection. In chronic scurvy there is present such a degeneration in the bone marrow. It, therefore, seems not improbable to Findlay that the lesion in the bone marrow may be at least one of the factors in the reduction of the resistance to bacterial infection exhibited by animals with chronic scurvy.

Schistosomiasis.—Dew emphasizes the fact that in spite of many general resemblances the helminthology and the pathology of the two infections (*Schistosoma mansoni* and *S. hematobium*) are distinct. The worms themselves produce a toxin, the reaction to which is manifested by eosinophilia and deviation of complement, and which is probably a big factor in the production of many of the pathologic changes, especially those found in the liver.

Pigmented Fatty Change in Cell Degeneration.—A description is given by Roberts and Haig of a further stage in fatty change, occurring in cell degeneration in certain subacute lesions, consisting in an alteration of some of the fatty or lipoidal globules, whereby a gradual deposition of pigment occurs at the periphery or margin of the affected globules, together with a progressive loss of their fatty or lipoidal contents. This is accompanied by a shrinkage process, resulting eventually in the formation of minute, deeply pigmented, granules. It is suggested that these granules, and the bodies preceding them, are in the nature of altered lipochrome, possibly a reduction product.

Oxyuris Vermicularis in Appendix.—No evidence was found by Eastwood in support of the theory that *Oxyuris vermicularis* is frequently a cause of appendicitis. *Oxyuris*, when present in the appendix, does not cause local eosinophilia. Eosinophils were found in the mucosa of the appendix in much greater numbers in pathologic than in normal appendixes, their numbers showing a definite relation to the stage of inflammation. They rise to above normal twenty-four hours after the onset of the attack, reach a maximum in the second week, and then gradually subside, but remain considerably above normal even three or four weeks after the attack. This local increase of eosinophils in the appendix is not accompanied by a general eosinophilia. Pigmentation of the appendix is said to occur as frequently in normal as in diseased appendices, and is more common after the thirtieth year.

Oats in Tubercles in Stomach Wall.—Shennan relates the case of a woman, aged 36, who gave a history of indigestion of several months' duration. She complained of more or less constant discomfort across the upper part of the abdomen, aggravated by food. On opening the abdominal cavity, the surgeon could find no sign of acute inflammation or ulceration of new growth; but he noticed an eruption of raised pink nodules—in size up to that of a grain of boiled rice—

over the visceral peritoneum in the right upper quadrant of the abdomen, mainly over the pyloric end of the stomach. These were at first thought to be tuberculous nodules, but in consistence they differed from tuberculous nodules, and their distribution and position were unusual. On microscopic examination, the nodules were found to be made up of granulation tissue, embedding elongated fragments of a vegetable substance which proved to be an oat seed. Shennan suggests that they escaped through a small perforation in the wall, which healed up speedily and perfectly, without much reaction even locally.

Journal of Tropical Medicine and Hygiene, London

Feb. 15, 1923, **26**, No. 4

*Unusual and Fatal Case of Undulant Fever Contracted in Khartoum. R. G. Archibald.—p. 55.
*Case of Myositis Purulenta Tropica. R. L. McConnell.—p. 57.
Identification of Inulin and Maltose, by Mycologic Method. Cases of Maltosuria. A. Castellani and F. E. Taylor.—p. 59.

Unusual Case of Undulant Fever.—Archibald records a case of malignant undulant fever contracted in Khartoum in which death occurred after an illness of twenty-seven days' duration. Clinically, the case lacked many of the typical manifestations of the disease. On the twenty-first day of the illness no agglutinations for *B. melitensis* were present in the patient's serum. *B. melitensis* was recovered by hemoculture on the twenty-second day of the disease; it was also obtained from postmortem cultures of the spleen. Archibald emphasizes that serodiagnostic methods are not always reliable; where they fail, hemoculture, urine culture, or splenic blood culture should be made. Patients should not be discharged from the hospital till repeated bacteriologic investigations show the urine to be free from *B. melitensis*.

Myositis Purulenta Tropica.—McConnell's patient complained of very severe pains in all the large joints and in the back, the elbows and knees suffering most. The evening temperature was about 103 F. The joint pains were so severe that he could not sleep. In the course of the next four months abscesses developed on the chest wall, shoulder, thighs, neck, rib and over the superior iliac spine. Much pus of anchovy sauce color was evacuated from each abscess. Filarial larvae were looked for without sucess. What appeared to be a nematode larva was found in a fresh specimen of pus. Later, in a stained specimen, a similar organism was found, likewise a small coiled up worm.

Medical Journal of South Africa, Johannesburg

January, 1923, **18**, No. 6

Control of Malaria. G. A. P. Ross.—p. 134.
Some Points in Plastic Vaginal Surgery. W. G. Grant.—p. 147.
Intestinal Obstruction from Hydronephrosis in a Pelvic Kidney. H. T. Mursell.—p. 148.
Headache and Weak Cylinders. A. Verwey.—p. 149.

Practitioner, London

January, 1923, **110**, No 655

Ophthalmic Operations. A. Critchett.—p. 5.
Throat, Nose and Ear Operations. J. Dundas-Grant.—p. 11.
Surgical Emergencies, with Special Reference to Abdominal Region. D'Aarcy Power.—p. 26.
Operation on First and Last Kink. W. A. Lane.—p. 33.
Operations on Bones and Joints. J. Lynn-Thomas.—p. 40.
Operations on Rectum. C. G. Watson.—p. 51.
Genito-Urinary Operations. F. S. Edwards.—p. 61.
Operations in Gynecology and Obstetrics. C. Berkeley.—p. 73.
Operations for Sports Injuries. F. Romer.—p. 99.
Antiseptics in Common Operations. W. E. Dixon.—p. 113.
Anesthetics in Common Operations. D. W. Buxton.—p. 121.

South African Medical Record, Capetown

Jan. 13, 1923, **31**, No. 1

Malaria on the Lowveld. H. A. Spencer.—p. 3.
Some Aspects of Scurvy in the Native, and Its Treatment by Orange Juice Intravenously. S. Donaldson.—p. 7.
Case of Glandular Fever. W. G. Robson.—p. 13.

Jan. 27, 1923, **21**, No. 2

Cerebral Trauma and Osteoplastic Repair of the Skull. T. L. Sandes.—p. 26.
A Plea for Radiation as an Alternative to Surgery. D. De Vos Hugo.—p. 29.
Hyperchlorhydria—a Manifestation of Endocrine Abnormality. J. Drummond.—p. 34.
Standardization in the Treatment of Prostatic Obstruction. A. R. McLachlan.—p. 37.

Journal d'Urologie, Paris

December, 1922, **14**, No. 6

*Share of France in Progress of Urology. E. Jeanbrau.—p. 433.
*Kidney Functioning on Salt-Free Diet. Negro and Colombet.—p. 467.
*Correction of Balanic Hypospadias. G. Marion.—p. 473.

Share of France in the Origin and Progress of Urology.—Jeanbrau remarks that three new chairs of urology have been installed in France since 1920, and reviews the history of this branch of medicine to which France has contributed so much. Urea was recognized by Le Cadet in 1771, and although sugar was suspected in diabetic urine by Willis in 1677, it was Chevreuil in 1815 who identified the sugar in the urine as glucose. The French were leaders in constructing a practical catheter and lithotrite, and in internal urethrotomy, endoscopy and the ureteral catheter. Ségalas exhibited in 1826 a speculum for urethra and bladder but it did not give enough light. Desormeaux of Necker Hospital devised in 1853 an efficient endoscope for the bladder, and thus became the father of cystoscopy, as Nitze, the inventor of the prism cystoscope, always acknowledged. This instrumental period of urology is almost exclusively French, and the same can be said for the scientific period which followed, inaugurated by Guyon, Albarran, Tuffier, Janet, Cathelin and Luys. Israel of Berlin remarked at the International Urologic Congress in 1910 "All the urologists of the world have been pupils of Guyon's school at the Necker Hospital." Legueu, the present head of the Necker school has simplified local anesthesia for prostatectomy. His latest achievement was the reconstruction of the entire spongiosa portion of the urethra after a war wound, utilizing the abdominal aorta from a dog. Papin in 1921 introduced the method of denervating the kidney as the last resource to control pain in the organ. Pousson at Bordeaux has popularized surgical treatment of nephritis with hematuria, uremia or rebellious pains. The article is illustrated.

Influence on Functional Tests of the Kidney from Salt in the Diet.—Negro and Colombet report as the result of their research that salt has no influence on the phenolsulphonephthalein test of the functional capacity of the kidneys. But the Ambard ureosecretory constant is modified decidedly by variations in the intake of salt. They give tracings from two typical cases. No regular law could be deduced governing the behavior of the constant.

Correction of Balanic Hypospadias.—Marion's illustrated description shows the various steps of the intervention which has proved eminently successful in four cases in which he has applied it. The technic is that of Chocholka, slightly modified, and this, he states, is based on the operation described by Bevan in THE JOURNAL, April 7, 1917, p. 1032. The new urethra is made from a square flap cut from the underside of the penis, entirely above the abnormal opening. The portion close to the abnormal opening is left attached. The flap is then drawn up around a sound and fastened with five stitches to make a tube. The passage is dug for it through the glans, using a trocar and then enlarging the passage with forceps. The forceps then draw the newly formed tube back through the new passage. His modification, which he considers very important, consists in slitting and turning back the skin on each side below the abnormal opening, after the new urethral tube has been sutured to the proximal stump. This slit on the median line allows a triangular flap to be turned back on each side, and the whole region is freshened. The flaps are then sutured together on the median line, aided by Galli tubes, and the whole heals smoothly without any tendency to fistula at any point. The flap is cut long enough so that the new tube projects beyond the glans at first. Its nourishment is insured by the narrow pedicle close to the former abnormal opening.

Schweizerische medizinische Wochenschrift, Basel

Jan. 18, 1923, **53**, No. 3

*Accommodation in Ametropic Eyes with Glasses. C. A. Hegner.—p. 53.
*Predisposition and Cancer. K. Nather.—p. 54.
*Surgical Treatment of Tuberculosis of Lungs. H. Alexander.—p. 56.
*Chronic and Incurable Patients. J. Kollarits.—p. 59.
Coagulation of Blood. A. Fonio.—p. 60. Conc'n.
History of Inspection of Leprous Persons in Switzerland. A. Martin.—p. 64.

Accommodation in Ametropic Eyes After Correction with Glasses.—Hegner demonstrates that a shortsighted person wearing correcting glasses does not need to accommodate as strongly as with normal vision. The stronger the glasses and the nearer the object, the greater is the difference in the two groups. Therefore it is not necessary to prescribe special glasses for fine work for myopia in the young. The farsighted person is at a disadvantage, because the stress of accommodation is greater with the glasses.

Predisposition and Cancer.—Nather examined the blood serum for ferments dissolving carcinoma cells (Freund-Kaminer's method, with Koritschoner's and Morgenstern's modification). He found that these ferments persist in about 20 per cent. of patients suffering from a cancer—especially of the squamous type; 77 per cent. of healthy persons under 45 years of age had the ferment, while it was present only in 22 per cent. after this age. Yet these persons remained healthy. He never saw a return of these ferments after radical operations for cancer (cured over ten years). It seems, therefore, that Freund-Kaminer's reaction is not caused by the cancer, but on the contrary seems to be a manifestation of the cause of cancer.

Surgical Treatment of Tuberculosis of Lungs.—Alexander recommends thoracoplasty in severe progressive unilateral cases. Stationary cases may be treated with it, if the chest is already so contracted that a further collapse of the lung seems impossible, and the patient continues to expectorate bacilli from a cavity which cannot close. The combination of thoracoplasty with removal of part of the phrenic nerve is advisable. Pneumothorax has the disadvantage of being a protracted treatment, and causing exudates. The advantage with artificial pneumothorax is the possibility of restoring the former condition of the lung.

Psychic Direction of Chronic and Incurable Patients.—Kollarits emphasizes the necessity of providing some sort of occupation for such patients.

Riforma Medica, Naples

Jan. 15, 1923, **39**, No. 3

Malformation of Cecum and Pericolic Membrane. Alzona and Valenti.—p. 49.
*Antimony in Treatment of Leprosy. A. Versari.—p. 53.
Functional Nervous Disturbances After Trauma of Orbit. Cozzoli.—p. 55.
Resistance of Vessel Walls in Clinical Pediatrics. Muggia.—p. 56.

Treatment of Lepra by Antimony.—Versari reports two cases of leprosy with very good palliative results from intravenous injections of tartar emetic. He injected every other day from 2 to 10 c.c. of a 2 per cent. solution, adding each time 1 c.c. The second patient required twenty-two injections (total 1.84 gm. tartar emetic). Though the drug acts very favorably on the lesions, it does not sterilize the patient.

Feb. 5, 1923, **39**, No. 6

*Rapid Diagnosis of Cholera. I. Iacono.—p. 121.
*Diagnosis of Intestinal Metastasis of Cancer. G. Aperlo.—p. 123.
*Paradoxic Postencephalitis Kinesia. A. Salmon.—p. 129.
Modern Views on Infantile Paralysis. G. Gianturco.—p. 131.
Prophylaxis and Treatment of Deficiency Diseases. Torraca.—p. 134.

Rapid Diagnosis of Cholera.—Iacono reviews eight different methods in vogue for isolation of cholera vibriones, and extols the superiority of what he calls the polyserum method. It is based on Castellani's discovery that when serums agglutinating typhoid, paratyphoid and cholera germs are mixed, and added to culture mediums containing these germs, the only one that proliferates is the one that does not have its corresponding agglutinating serum in the mixture. For example, if loops of paratyphoid and typhoid bacilli and cholera vibriones are added to a culture medium containing serums agglutinating the cholera germs and the paratyphoid bacilli, the typhoid bacilli alone will proliferate. He reports twenty-two tests of the method in practice; it proved rapid and reliable, showing the cholera vibriones in pure culture in eight hours.

Diagnosis of Metastasis of Cancer of the Pylorus.—Aperlo quotes Tansini's statement in 1906 to the effect that when there is intestinal metastasis of malignant disease in the pylorus region the abdomen is not sunken in as usual but looks rounded and full, as in a well nourished, healthy person. Aperlo relates six instructive cases in which this Tansini sign warned of metastasis even when there was no ascites, palpable tumor nor enlarged glands, and the general condition rendered the assumption of malignant disease uncertain. Riva-Rocci has noticed a similar rounding up of the abdomen in children with peritoneal involvement in the course of tuberculous meningitis, instead of the usual *depressione a barca*. Other signs of abdominal metastasis of gastric or duodenal cancer are the enlarged glands in the left supraclavicular fossa, hardening and retraction of the umbilicus, and a hard patch in front of the rectum, which can be felt through the rectum.

Postencephalitic Paradoxic Kinesia.—Salmon refers to the strange fact that certain persons with parkinsonian symptoms after epidemic encephalitis are able sometimes to dance or ride the bicycle whereas they are stiff and seem to have scarcely any control over their legs at other times. He points out the difference between the parkinsonian symptoms that follow epidemic (lethargic) encephalitis and those of true Parkinson's disease. In the postencephalitic immobility, the mental factor seems more prominent than the muscular rigidity. It seems to be more of a disinclination to move than an inability to move. Naville calls it "bradyphrenia"; Hesnard and Verger call it "mental viscosity." The subjects seem incapable of attention, thought or desire. The phenomena observed seem to confirm the assumption of a center for emotions located in the gray substance of the base of the brain.

Crónica Médica, Lima

September, 1922, **39**, No. 711

*Abdominal Aortitis. M. Gonzáles Olaechea.—p. 336.
*Colloidoclasis and Malaria. J. A. Monteverde.—p. 341.
*Breast Nursing at Lima. Rómulo Eyzaguirre.—p. 357.
*Blocking the Celiac Plexus. M. N. Carrillo.—p. 359.
Pathogenesis of Auricular Fibrillation. R. M. Alzamora.—p. 364.

Abdominal Aortitis.—Olaechea says the prognosis is grave in the case described, as the man aged 55 has high blood pressure and kidney disease, besides abdominal attacks resembling the symptoms of angina pectoris. The abdominal aorta is tender in its entire length, and part of it is unusually large. Moist heat to the abdomen relieves the pain, and treatment as for syphilis is now under way. In another case the insufficiency of the abdominal aorta was evidently due to loss of elasticity in its walls. The result was attacks of intense pain, tenderness along the aorta, and edema of the legs and lower trunk, ascites, and finally fatal anuria, with death forty-five days after the onset of the edema. Throughout, the pulse had been good, the heart working well, and there was no trace of edema above the abdomen.

Colloidal Shock in Relation to Malaria.—Monteverde gives a summary of what is known in regard to anaphylaxis and the hemoclastic crisis, and relates a number of experiences with malarial and other subjects. He explains the hemoclastic crisis as due to the same pathogenic mechanism as anaphylaxis, namely an upset in the colloid balance. The malarial attack is a hemoclastic phenomenon. The irruption into the blood stream of the newly fledged malarial parasites acts as an antigen. The blood changes occur in the same way and sequence as under shock treatment from parenteral injection of proteins. All hemoclastic phenomena have the same pathogenesis, and the malarial attack belongs in the same category with the rest.

Breast Feeding at Lima.—Eyzaguirre states that only 44 per cent. of 600 infants under observation were breast fed. "The infant is thus forced into being the parasite of the cow."

Blocking the Celiac Plexus.—Carrillo describes the application of Labat's technic for anesthetizing the celiac plexus, and extols its advantages for operations in the abdomen. He urges this nerve blocking as a harmless treatment for algias in the viscera as well as for operations.

November, 1922, **39**, No. 713

*Depopulation. L. Avendaño and G. Fernández Dávila.—p. 431.
*Parasitic Diseases of Lungs in Peru. A. Corvetto.—p. 471.
*Technic for Pulmonary Docimasia. G. Fernández Dávila.—p. 479.
The Stegomyia Calopus in Peru. N. E. Cavassa.—p. 484.

Factors Contributing to Depopulation.—This long article describes conditions in Peru and means designed to improve them. It was read at the recent Latin-American medical congress, and concluded with an appeal to the governments of the countries of America for concerted action on ways and means to promote the natural and eugenic increase of the population.

Parasitic Disease of the Lungs in Peru.—This was summarized on page 807 when it appeared in another exchange.

Pulmonary Docimasia.—Fernández Dávila has modified Icard's technic for pulmonary docimasia and extols the extra precision it confers on the test. He uses a 40 or 50 per cent. aqueous, instead of alcoholic, solution of potassium hydroxid. This takes a little longer to digest the lung fragments and release the air in them, but the process never exceeds two or three hours. Another improvement is a long, graduated glass tube, 5 mm. in diameter, which is mounted in the rubber stopper of the test tube holding the lung fragments suspended in the caustic fluid. Then more fluid is poured into the small tube until it reaches nearly to the top and the tube is plugged. The air released from the lung by the action of the caustic can thus be easily and accurately estimated.

Deutsche medizinische Wochenschrift, Berlin

Jan. 12, 1923, **49**, No. 2

*Disinfection of the Mouth. H. Leo.—p. 39.
*Proteins as Antigens and Antibodies. W. G. Ruppel.—p. 40.
*Modified Technic for Meinicke's Test for Syphilis. E. Meinicke and E. Grün.—p. 43.
Tuberculosis and Pregnancy. G. Winter and W. Oppermann.—p. 45. Cont'n.
Radium Castration and Dosage. P. W. Siegel.—p. 47.
*Gastric Cancers. M. Askanazy.—p. 49. Conc'n.
Fat-Splitting Function of the Lymphocytes. S. Bergel.—p. 51. Idem. L. Aschoff and H. Kamiya.—p. 53.
*Thoracocentesis and Thoracoplasty. K. E. Neumann.—p. 53.
Disinfection of Tuberculous Sputum. F. Kirstein.—p. 54.
Dangers of Ethyl Chlorid for Children. Seiffert.—p. 55.
Improvised Tonometer. P. König.—p. 56.
*Asphyxia During and After the Birth. M. Henkel.—p. 56.
Dementia Praecox in General Practice. Henneberg.—p. 58.
*Increase in Drunkenness and Alcohol Addiction. E. Meyer.—p. 60.
The Campaign Against Tuberculosis in Switzerland. K. Söpfle.—p. 60.
Medicolegal Questions in Medical Practice. Ebermayer.—p. 61. Cont'd.

Disinfection of the Mouth.—Leo found that the disinfecting action of water soluble drugs ends in a few minutes. The bacteriologic content was just as high fifteen minutes after cleaning the mouth with water or hydrogen peroxid. Yet the latter has the mechanical advantage of cleaning the gaps between the teeth, by the foaming and probably also because of its action on pathogenic germs. Preparations which are insoluble in water, like some of the substitutes for iodoform, may remain and be active in the mouth over night.

Lyophil and Lyophobe Proteins as Antigen and Antibody.—Ruppel used the electro-osmotic method for separating different fractions of proteins. He found that the agglutinins and amboceptors (except the hemolytic) and syphilitic reagins are contained in the lyophobe euglobulin fraction (precipitated in water free from electrolytes). The protective and curative properties, especially antitoxins, are in the lyophil fraction (with pseudoglobulins). Albumin does not produce anaphylaxis against itself, nor does it contain any antibodies. Bacilli can be disintegrated by the electric current, and their lyophobe fraction, though its toxicity is diminished, is a suitable antigen for immunizing purposes in disease.

Modified Meinicke Reaction in Diagnosis of Syphilis.—Meinicke and Grün report good and rapid results from the addition of tolu resin to, and the omission of cholesterol from, the alcoholic extracts.

Cancer of the Stomach.—Askanazy deals with the pathogenesis of carcinoma of the stomach, and especially with congenital inclusions in the walls of the stomach.

Puncture of Thorax and Resection of Ribs.—Neumann points out that a fresh exudate can be expected low in the phrenicocostal sinus, while an older one should be looked for higher up.

Asphyxia Neonatorum.—Henkel admits that asphyxia may be an indication for forceps, but states that the forceps often aggravates the asphyxia.

Increased Frequency of Alcoholism.—Meyer's psychiatric statistics show the rapid increase in alcoholism since 1918. The percentage of cases of alcoholism in the Königsberg psychiatric clinic in 1921 and 1922 (12.58 per cent. men and 2.18 per cent. women) almost reached the pre-war level (16.75 men and 2.26 women). On a recent Saturday evening, between 8 and 10 p. m., he met between thirty and forty drunken persons on the streets of Königsberg. He recommends prohibition of the manufacture of strong liquors and strong beers as a start for general prohibition.

Jan. 19, 1923, **49**, No. 3

*Korotkow's Method of Blood Pressure Determination. Rumpf.—p. 71.
*Sedimentation Speed of Blood Corpuscles. Moral.—p. 74.
Tuberculosis and Pregnancy. Winter and Oppermann.—p. 76. Cont'n.
*Determination of Tubercle Bacilli in Blood. O. Köster.—p. 78.
Treatment of Arthritis. Roeser.—p. 79.
*Pernicious Anemia. Autor.—p. 80.
Thrombolytic Purpura and Aplastic Anemia. F. Sternberg.—p. 81.
Anemia Due to Anguillula Intestinalis. Hemsen.—p. 83.
Nature of Rickets. E. Aschenheim.—p. 85.
*Puncture of Lymphatic Glands in Syphilitics. F. W. Oelze.—p. 86.
Stimulating Roentgen Ray Doses in Alopecia Areata. Thedering.—p. 89.
Proposed Prussian Law on Tuberculosis. E. Hartmann.—p. 90.

Korotkow's Method of Blood Pressure Determination.—Rumpf recommends Korotkow's auscultation method. In healthy persons it usually gives a little higher figures for systolic pressure than the palpation method. If the brachial artery is sclerotic, the method gives lower values.

Sedimentation Speed of Blood Corpuscles.—Moral observed the sedimentation speed of blood in about 400 patients. Only increased speed is of diagnostic value. Slow speed does not exclude organic disease. In later stages of tuberculosis, slow speed has a good, high speed a bad significance.

Determination of Tubercle Bacilli in Blood.—Köster did not find bacilli in the blood in fourteen cases of tuberculosis (one of them a meningitis). Zeissler's oxalate method gave reliable results, when 1:500 of a loop of the tubercle bacilli was mixed with 5 c.c. of blood.

Pernicious Anemia.—Autor was not able to produce anemia in rabbits by injections of extracts of bacilli cultivated from the stool of pernicious anemia, nor by extracts of colon bacilli. Care is necessary in estimating the blood changes; one of his rabbits had 335 normoblasts in 1 c.mm. of blood before the experiment. Anisocytosis, polychromophilia and normoblasts are quite common in rabbits.

Puncture of Lymphatic Glands in Syphilitics.—Oelze combines the methods of Schultz and Mitchell (injection of 0.25 to 0.5 c.c. of normal salt solution and leaving the needle in the gland for two to five minutes). The method should be used in cases with negative Wassermann reaction more often than it is.

Klinische Wochenschrift, Berlin

Jan. 15, 1923, **2**, No. 3

*Change of Cell Metabolism as Basis of Pathologic Reactions. A. Gottschalk.—p. 109.
Anesthesia with Pure Acetylene. C. J. Gauss and H. Wieland.—p. 113. Cont'd.
*Intensity of Metabolism and Diuresis. H. Vollmer.—p. 117.
*Uremia and Nitrogen Retention. H. Lax.—p. 119.
*Food and Acidity of Urine. C. M. Hasselmann.—p. 122.
Mercurial Stomatitis as Occupational Disease. L. Möller.—p. 123.
*Pituitary Tumor and Diabetes Insipidus. G. Domagk.—p. 124.
Dwarfism. M. Berliner.—p. 126.
"Inflammation and Nervous System." G. Spiess.—p. 128. Reply. Kauffmann.—p. 128.
Uniting of Nerves in Parabiotic Rats. B. Morpurgo.—p. 129.
Intravital Hemolysis and Transfusion Shock. W. Jantzen.—p. 129.
Botulism After Use of Canned Beans. L. Wagner.—p. 130.
Pyelography. A. Lichtenberg.—p. 130.
Insurance of Sick Persons. J. Sturm.—p. 133.

Change of Cell Metabolism as Basis of Pathologic Reactions.—Gottschalk reviews the recorded experiments on the increase of noncoagulable nitrogen compounds in the liver after injections of proteins, especially of bacterial origin. He points to the possible consequences for allergic conditions and infectious diseases.

Intensity of Metabolism and Diuresis.—Vollmer found that hormones which increase the metabolism decrease diuresis

and the acidity of the urine. Proteins have generally a similar action. Hormones which decrease metabolism, especially extracts of testes, increase diuresis.

Uremia and Nitrogen Retention.—Lax found in three nephritis cases with death from insufficiency of the kidneys, a nitrogen equilibrium or, rather, a greater elimination than intake of nitrogen. He attributes the uremia to "isosthenuria of the tissue cells," because he found, with Rohonyi, that normal tissues contain about ten times more noncoagulable nitrogen than the blood; the figures are equal in uremia.

Food and Acidity of Urine.—Hasselmann found in men the lowest acidity after a meat diet, while a diet rich in oats caused a very acid urine.

Pituitary Tumor and Diabetes Insipidus.—Domagk's case was diabetes insipidus with metastasis of cancer in the nervous part of the pituitary, which did not present macroscopic changes. There were no macroscopic changes in the brain.

Münchener medizinische Wochenschrift, Munich

Jan. 12, 1923, **70**, No. 2

*Encephalography. W. Alwens and S. Hirsch.—p. 41.
*Mechanical Strain on the Epiphysis. W. Müller.—p. 44.
*Metabolism in Scurvy. Knipping and Kowitz.—p. 46.
*Atropin in Treatment of Parkinsonian Symptoms. W. Szyszka.—p. 47.
Contracture in Talipes Valgus. G. Hohmann.—p. 48.
Caustics in Intra-Uterine Treatment. W. Sigwart.—p. 50.
*Revision of Uterine Cavity in Puzzling Hemorrhages. W. Hesse.—p. 51.
*Treatment of Gastroptosis. E. Wehner and H. Böker.—p. 52.
*Infection in Tuberculosis. F. Hamburger.—p. 54.
Laceration of Umbilical Cord in Normal Delivery. Death of Infant. M. Nassauer.—p. 55.
Unusual Findings in Abortions. E. Hönck.—p. 56.
Cataleptic Rigor Mortis. Lochte.—p. 56.
*Sphenoidal Sinusitis in General Practice. G. Spiess.—p. 57.
Physicians and Social Insurance. E. Sardemann.—p. 58.

Encephalography.—Alwens and Hirsch report one death attributable to the encephalography among their patients. In another case breathing stopped for a short time but the patient recovered. In some cases intraspinal insufflation seemed to have a favorable influence on the condition of the patient. This was especially noticeable in three persons, aged about 23, suffering from "a sort of migraine."

Mechanical Strain on the Epiphysis.—Müller resected in animals a large part of the shaft of the radius in order to compel the ulna to carry the weight of the body. He found that this induced changes in the bone histologically and radiologically similar to the bone changes in rickets. Therefore these changes are not specific for rachitis. They are simply the result of an insufficiency of the bone in respect to the function required of it.

Metabolism in Scurvy.—Knipping and Kowitz encountered a number of cases of scurvy affecting exclusively single men who prepared their own food or frequented cheap restaurants serving canned foods. The basal metabolism was increased as long as they were kept on a diet sterilized in the autoclave. Addition of lemon juice brought the oxygen consumption down to normal.

Atropin in Treatment of Parkinsonian Syndromes.—Szyszka relates excellent, though transient, results in the treatment of postencephalitic parkinsonian syndromes. He gave from four to six pills daily of 0.0005 gm. atropin sulphate for three to six days. Then he interrupted the treatment for two or three days to delay habituation. In some of the patients the dose had to be gradually increased to 0.004 gm., but without causing untoward effects. One patient who had required over five minutes to copy sentences was able to do the copying in two minutes and twenty seconds after six days of atropin. Similar effects were observed in the time required in dressing.

Revision of Uterine Cavity in Puzzling Cases of Hemorrhage.—Hesse recommends digital examination of the cavity of the uterus in cases of uterine hemorrhage. He reports cases in which polyps were thus discovered that had escaped other means of investigation.

Operative Treatment of Gastroptosis.—Wehner and Böker review the methods for operative correction of gastroptosis. They applied the Duret suspension method in fourteen cases, and in eleven the roentgenologic effect was perfect. Clinical cure was realized only in three in this group; six others were only improved.

Infection in Tuberculosis.—Hamburger supplements his previous report on the infection of his oldest son with tuberculosis, narrating the tragedy of the infection of his four other children. It was caused by a tuberculous servant, with intermittently "open" tuberculosis. All four children had a typical phlyctenular conjunctivitis after the infection. He declares that the servants in the homes with small children should be reexamined for tuberculosis every three months.

Sphenoidal Sinus Disease.—Spiess discusses the symptomatology, diagnosis and treatment of sphenoidal sinusitis. He stresses the feeling of pressure in the head, the anxious expression of the face, narrowing of the visual field, and thoughts of suicide.

Jan. 19, 1923, **70**, No. 3

Chemotherapy of Gallbladder Disease. G. Singer and R. Willheim.—p. 73.
*Hyperemesis of Pregnancy. H. Albrecht.—p. 75.
*Prognosis of Tuberculosis of Infants. H. Langer.—p. 76.
Technic of Pleural Puncture. Hammer.—p. 79.
Surgical Treatment of Tuberculous Spondylitis. M. Baumann.—p. 81.
Treatment of Congenital Irreducible Luxation of Hip Joint by Subtrochanter Osteotomy. F. Hahn.—p. 82.
*Intestinal Arteriosclerosis. F. W. Strauch.—p. 83.
Fight Against Intestinal Parasites in School Age. Hage.—p. 85.
Animal Chimeras: Parts of Different Species Joined to Make Living Animal. Goetsch.—p. 87.
Poisoning by Atropin. Malade.—p. 87.
Symptomatic Changes of Blood. P. Morawitz.—p. 89.
The Right of Physicians to Sell Drugs. Hildebrand.—p. 91.

Hyperemesis of Pregnancy.—Albrecht believes that the basis of the vomiting of pregnancy is increased irritability of the pneumogastric nerve from psychic causes. Psychotherapy proved successful in his fifty-two cases.

Prognosis of Tuberculosis of Infants.—Langer emphasizes the bad influence of superinfection, and believes that isolation of infants for a year would decrease the mortality. Previous tuberculosis of the parents increases the resistance of the infant against acute tuberculosis. The prognosis is not as unfavorable as is generally assumed.

Intestinal Arteriosclerosis.—Strauch finds that pains ("abdominal angina") are not always the first sign of arteriosclerosis of the abdominal vessels. A feeling of fullness, sudden hyperacidity, idiosyncrasies may be due to it. Measuring the blood pressure is important. Intolerance against nicotin is very frequent. In all these conditions theobromin preparations, possibly atropin and papaverin, are indicated.

Wiener klinische Wochenschrift, Vienna

Jan. 18, 1923, **36**, No. 3

*Roentgen-Ray Treatment of Tuberculosis of Skin. R. Volk.—p. 41.
*Treatment of Tuberculosis. J. B. Andreatti.—p. 44. Cont'd.
*Action of Sodium Chlorid. M. Engländer.—p. 51.
Oxygen Consumption During the Latent Period of Roentgen Injury. Petry.—p. 51.
Death of Infant: Aspiration of Vomit or Infanticide? Schwarzacher.—p. 52.
Ligation of Hypogastric Artery in Treatment of Inoperable Uterine Cancer. F. Orthner.—p. 54.

Roentgen-Ray Treatment of Tuberculosis of Skin.—Volk believes the roentgen rays are good as a rule, but that they are superfluous in tuberculids like lichen scrophulosorum, acnitis and folliclis. This treatment is advisable in indurated erythema. Lupus which lies level with the skin is not influenced by roentgen rays; they should be used only in the ulcerative form. The rays act well also in lupus of the nasal mucosa, though radium gives excellent results after excochleation of the granulations.

Treatment of Tuberculosis.—Andreatti believes that uncomplicated tuberculosis lowers the body temperature. He attributes the fever to mixed infection, which should be treated by a vaccine. The temperature should be taken every two hours.

Action of Sodium Chlorid.—Engländer found that sodium chlorid increases the speed of decomposition of potassium permanganate in an alkaline medium. The salt is therefore chemically not as indifferent as generally assumed.

Zeitschrift für Kinderheilkunde, Berlin

Jan. 18, 1923, **34**, No. 5-6

*Endogenous Infection of the Small Intestine. K. Scheer.—p. 223.
*Prognosis in Tuberculous Infants. W. Stoeltzner.—p. 235.
*Food Consumption of Rats. I. John and B. Schick.—p. 239.
*Arneth's Blood Count in Normal Infants. Arneth and Nienkemper.—p. 263.
*Motor Underdevelopment of Children. T. Heller.—p. 287.
"Concentrated Food for Infants." Heller.—p. 291. Reply. Nobel.—p. 292.
Real Acidity of Mouth Fluid in Infants. Jacobi and Demuth.—p. 293.
Stomach Function Tests in Healthy Infants. F. Demuth.—p. 297.
*Fat Tissue in the Newborn. J. Becker.—p. 301.
Angioma of Lung in Infant. C. de Lange and S. B. de Vries.—p. 304.
*"Temporary Dwarf Growth." J. Rosenstern.—p. 310.
Treatment of Tuberculosis in Children. B. Salge.—p. 326.
Cryoscopy with Small Amounts of Fluid. B. Salge.—p. 330.
*Scurvy and General Dystrophy. Flora Rosenbund.—p. 333.
*Occult Bleeding in Feces of Infants. H. L. Ratnoff.—p. 340.
Idiosyncrasy Against Human Milk. E. Aschenheim.—p. 351.

Endogenous Infection of the Small Intestine.—Scheer cultivated strains of colon bacilli from the stomach or duodenum of fifteen dyspeptic infants. These strains showed a strong faculty to supplant other cultivated microbes (Nissle's antagonistic index). A similar occurrence in the feces was found by other authors, who pointed out the different significance of these active strains of colon bacilli in adults and in infants. They seem to prevent infection by other germs in adults, while they are probably pathogenic in infants. Three children were injected with formaldehyd solution after death. The histologic findings did not speak for an invasion of the body through the walls of the intestine. Agglutination tests with the serum of the patients were usually also negative. In some cases ferments dissolving proteins from colon bacilli were found. In such cases an invasion of the whole body may be assumed.

Prognosis in Tuberculous Infants.—Stoeltzner admits that the new finer methods of diagnosis allow a little brighter outlook in such cases. Yet the mortality among his thirty-three tuberculous infants was at least 72 per cent. Other authors have reported 65 per cent.—figures which are surpassed only in hydrophobia and lepra.

Food Consumption of Rats in Pregnancy and During and After Lactation.—John and Schick publish careful studies on ten rats. Pregnancy does not increase consumption. The sudden and regular increase in weight of the rats six or eight days before the termination of pregnancy is due to retention of water. The consumption of food increases immediately after delivery and, with the increase in milk secretion, quickly reaches more than two and one-half times the normal figures. These amounts of food cause dyspeptic disorders in normal animals.

Arneth's Blood Count in Normal Infants.—Arneth and Nienkemper analyzed in detail the white blood corpuscles of ten infants under 10 days old. To the distinctions between classes of leukocytes according to the number of nuclear lobes, Arneth added similar attempts to classify the lymphoid cells.

Motor Underdevelopment of Intellectually Normal Children.—Heller draws attention to children who are intellectually normal or supernormal, but who fail in the motor sphere. They are clumsy in dressing; do not learn to run, jump, or dance gracefully. Treatment must be individual, and should bring the child to understand the mechanical details of such movements, training both mind and muscles.

Fat Tissue in the New-Born.—Becker found large qualitative and quantitative differences in the fat tissue of fetuses and new-born infants. It seems that an embryonic type is frequent in those whose glands are also underdeveloped.

"Temporary Dwarfs."—Rosenstern publishes five cases of children, who are much smaller than other children of their age. This is chiefly due to the shortness of the lower extremities. The mutual proportions of the parts of the body correspond to a younger stage. Some of them change later to normal proportions.

Scurvy and General Dystrophy.—Rosenbund concludes from her observations on thirty-four cases, that dystrophic conditions in children suffering from scurvy are caused by primary infectious troubles or by lack of other necessary substances, but not by the scurvy itself. The striking simultaneous improvement of the scurvy and the dystrophy is due to the increased appetite, or to the presence of other vitamins in the hospital diet, or to a correct proportion between food and vitamins.

Occult Bleeding in Feces of Infants.—Ratnoff found very often occult intestinal bleeding in children in the second half of the first year and the beginning of the second. He points out that this age predisposes also to cutaneous hemorrhages (Rumpel-Leede's phenomenon).

Zentralblatt für Chirurgie, Leipzig

Feb. 3, 1923, **50**, No. 5

Operation for Pylorospasm in Infants. B. Heile.—p. 162.
*Cicatricial Stenosis of the Pylorus. E. Elischer.—p. 165.
*A Substitute for Drainage of Hepatic Duct. Ahrens.—p. 169.
Preparation of Operative Field. P. Rosenstein.—p. 170.
Gastroscopy and Mechanics of Esophagus. W. Sternberg.—p. 172.

Stenosis of the Pylorus Caused by Corrosive Substances.—Elischer emphasizes the fact that the portion of the gastro-intestinal tract chiefly injured by the ingestion of corrosive substances depends to a great extent on the condition of the stomach as to fullness at the time of the accident. If the stomach is empty, the changes may affect the whole gastric mucosa, but if the corrosive fluid enters a full stomach, it passes along the sulcus gastricus or gastric channel directly to the pyloric portion of the antrum and causes here the greatest changes. The possibility of stenosis of the pylorus must always be considered. If roentgenoscopic examination is possible, we can establish the indications for operative intervention. If the esophagus is nearly closed, the pylorus will usually be found free if the stomach is much contracted and hard to draw forth. If stenosis of the pylorus is present, however, there is usually a distended and somewhat flaccid stomach, which is easily drawn forth, and the pylorus shows characteristic changes: radial scars, especially on the anterior surface of the stomach—possibly adhesions, or hard scar tissue extending down to the muscle layers. These changes were especially characteristic of the effects of concentrated solutions of hydrochloric acid. In this condition of the pylorus there are two ways open: jejunostomy or gastro-entero-anastomosis. Jejunostomy is to be recommended only in case the stricture of the esophagus is complete and the stomach has been so badly damaged that there is scarcely a sound portion left for the gastro-enterostomy, but these conditions rarely exist. Gastro-enterostomy is preferable to jejunostomy, as the introduction of food into the small intestine may set up chemical irritation which will render proper nutrition impracticable.

A Substitute Method for Kehr's Drainage of the Hepatic Duct.—During the past two years, in a number of cases, after removing stones from the choledochus, Ahrens has extirpated the gallbladder, closed the incision in the common bile duct, and joined the stump of the cystic duct to the duodenum or end-to-side with the stomach. In this manner he used for drainage a biliary passage that is not subject to obliteration and constitutes, to a certain extent, an accessory common bile duct. The stump of the cystic duct is ligated with fine catgut; a fold of the duodenum or of the juxtapyloric stomach is raised up with two forceps; a scalpel is inserted and this small opening is enlarged with fine forceps introduced. The cystic duct is inserted in this opening, and the duodenum is sutured for some distance to the peritoneum of the gallbladder bed and the choledochus. The cystic duct thus becomes an integral portion of the duodenal wall. A small tampon placed beneath the hepatoduodenal ligament holds the anastomosis in place until healing is effected. The principle is like that of Maylard's method.

Zentralblatt für Gynäkologie, Leipzig

Jan. 20, 1923, **47**, No. 3

Transverse Division of Sacrum in Narrow Pelvis. Eymer.—p. 98.
*Roentgen-Ray Therapy of the Adnexa. W. Flaskamp.—p. 100.
*Treatment of Rebellious Pains in Lumbar Region. G. Burckhard.—p. 107.
Changes in the Mamma at Menstruation. A. Rosenburg.—p. 111.
Case of Genuine Missed Labor. F. Kok.—p. 116.
Total Inversion of Uterus in Woman Aged 70. Fleischmann.—p. 121.
Connection Between Measures to Protect the Perineum and a Hematoma in Head of Infant. Schneider.—p. 123.

Deep Roentgen-Ray Therapy in Inflammations of the Adnexa.—Flaskamp has found in roentgen rays a valuable adjuvant of other forms of conservative treatment of inflammations of the adnexa. He reviews the ordinary methods of treatment and points out the weak points of each. Physicotherapy (heat, cold and light), while it alleviates pain and checks hemorrhage, effects a cure in only the milder cases. The patient is usually confined to bed for a long period. In the majority of cases the local condition is little changed. Ovarian function remains disturbed. With roentgen rays, 30 per cent. of the Seitz-Wintz erythema dose being employed, it is possible to inhibit for a time the functioning of the follicle apparatus, by which ovarian hemorrhages are engendered, without injuring the endosecretory portion. This technic of temporary sterilization is what Flaskamp employs. It requires precise adjustment, from the physical and biologic side, of the roentgen-ray tubes. Patients with inflammatory changes of all kinds were thus treated and with good success. The first or second week of the intermenstrual period is the appropriate time for the application. Contraindications are endosecretory disturbances, exophthalmic goiter, tendency to myxedema, and psychoses of other than ovarian origin. In 40 per cent. of the patients, amenorrhea was set up at once. The induced menopause lasts from eighteen months to two years. The possibility of conception is not impaired. In thirty-five reported cases, normal children were born following temporary sterilization. A further justification for temporary sterilization is the commonly observed fact that ovarian functioning hampers the curative process in general.

Treatment of Pains in Lumbar Region.—Burckhard recommends what he terms "episacral anesthesia" to combat chronic pain in the sacral region. The results are surprisingly good. He has used the method so far in ten cases (all women), in several of which the patient has been observed for more than a year. The back pains disappeared soon after the injection. A second injection was in no case necessary, but he would not hesitate to give a second injection if needed. No patient has had a recurrence, though several have been doing hard physical labor. A slender needle, such as is usually employed for local anesthesia, is inserted, right or left of the midline of the sacrum. The distance of the sacral foramina from the midline is determined by palpation. The needle is then pushed forward to the third, then to the second, and finally to the first sacral foramen, while, at the same time, small quantities of the fluid are injected. At each sacral foramen he injects from 10 to 15 c.c. of the 0.5 per cent. procain-epinephrin mixture. Then the needle is drawn back almost to the site of the first puncture, turned, and in the same manner, the fourth and fifth foramina are provided for. He then proceeds in the same manner on the other side. No bad effects were ever noted following the injection. As his series of cases is small, Burckhard gives this merely as a preliminary report, recommending the method for trial.

Casopis Lekaruv Ceskych, Prague

Dec. 30, 1922, **61**, No. 52

Coxalgia of Adolescents. J. Divis.—p. 1241.
*Action of Lymphocytes in Tuberculosis. M. Kaplanova.—p. 1246.
Extraction of Fetus in Breech Presentation. M. Wassermann.—p. 1248.
Obturator Hernia. F. Kudlac.—p. 1249.

Action of Lymphocytes in Tuberculosis. — Kaplanova observed a pleuritic exudate in a case of tuberculosis. Many erythrocytes were arranged around single lymphocytes. This resembled the pictures seen in the peritoneal fluid after intraperitoneal injections of blood corpuscles.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 27, 1923, **1**, No. 4

Hay Fever Plants in Utrecht District. Benjamins et al.—p. 330.
Myosclerometer. S. Koster.—p. 342.
*Preclimacteric Corpulence. A. Willemse.—p. 351.
Vaccination Against Typhoid. H. Klein.—p. 355.
Frontal Sinusitis Involving Brain. D. A. van Walree.—p. 365.

Preclimacteric Corpulence. — Willemse remarks that the period just preceding the involution of the ovaries and testes has been studied very little. The climacteric occurs about fifteen years later in men than in women. He has noticed in the preclimacteric stage that the skin feels less elastic as the hair turns gray and the teeth decay, but the most striking change is the accumulation of fat. In women, just above the wrist there is often a local accumulation of fat, an actual *plica adiposa antibrachii*. Another common deposit of fat is close to the lower jaw. These two locations for local accumulations of fat seem to be peculiar to the approaching menopause, and may warn of its imminence.

Feb. 3, 1923, **1**, No. 5

*Formation of Hippuric Acid. I. Snapper et al.—p. 426.
*Myoclonic Reflexes. L. J. J. Muskens.—p. 433.
*Treatment of Epilepsy. F. J. Stuurman.—p. 442.
*Deafness in Schoolchildren. A. Binnerts.—p. 445.
*Acute Dilatation of the Stomach After Delivery. L. van der Perk.—p. 454.
Job van Meekren, M.D., 1611-1666. E. D. Baumann.—p. 456.

Formation of Hippuric Acid.—The research reported from the Amsterdam physiology institute confirms the production of hippuric acid in the kidneys of the dog, hog and sheep, and likewise in man. It further demonstrated that the production of hippuric acid and its elimination in the urine are two distinct functions, and must be estimated separately.

Myoclonic Reflexes.—Muskens analyzes the mechanism of the latent and refractory period with myoclonic reflexes and experimental epilepsy as studied on cats and other animals, with and without drugs.

Treatment of Epilepsy.—Stuurman recorded the number of seizures in patients during periods when they were being treated with bromids or with phenobarbital. The results showed that the latter is useful, and possibly a little more effectual than the bromids, but not enough to compensate for its higher price as a rule. It acts more rapidly than the bromids and hence may be preferable in status epilepticus, and in cases that do not respond to bromids. He noted that the urine after an epileptic seizure was always strongly acid, while preceding the attack it was less acid than normal or even weakly alkaline. Treatment with alkalis or acids kept up for two or three months failed to show any influence, either favorable or unfavorable, on epilepsy.

Deafness in Schoolchildren. — Binnerts comments on the advantages of special schools for the partially deaf. He urges the organization of such a school in every community of 100,000 inhabitants or even less. The difficulty is that the parents often do not recognize the defect in the child, and combat the special schools as inferior. A campaign of enlightenment for teachers and parents must be organized. In the Netherlands, from 0.2 to 2 per cent. of the children are unable to hear a whisper at 2 meters or less.

Acute Dilatation of the Stomach After Childbirth. — No anesthetic had been given, and the acute dilatation gradually subsided after the primipara had been turned to lie on her right side.

Acta Medica Scandinavica, Stockholm

Jan. 27, 1923, **57**, No. 5

*Wassermann Reaction in Metasyphilis. T. E. Hess Thaysen.—p. 419.
*Perception and Representation. S. E. Henschen.—p. 458.
Ulcerative Syphilitic Colitis. C. Gram.—p. 502.
Action of Muscle Dehydrogenases. G. Ahlgren.—p. 508.

Prognostic Value of Wassermann Reaction in Metasyphilis.—Thaysen is skeptical about the prognostic value of a positive Wassermann reaction in the blood or spinal fluid in fully developed tabes. In abortive cases, a negative reaction seems to give a better prognosis. The course of the disease is not changed if the treatment changes the reaction of the blood.

Perception and Representation from the Anatomic and Clinical Standpoint.—Henschen tries to define exactly these and similar terms, and discusses the cerebral localization in cases from the literature and one of his own.

Hospitalstidende, Copenhagen

Feb. 7, 1923, **66**, No. 6

*Hemoglobin and Corpuscle Volume in Infants. P. Drucker.—p. 110.
Myeloblasts and Partly Granular Myelocytes. Ellermann.—p. 124.

Hemoglobin and Corpuscles in Infants. — Drucker gives eight tables of the findings in large numbers of infants with

acute or chronic digestive disturbance, stenosis of the pylorus or anemia. Nothing was found to show any connection between rachitis and anemia. The blood findings were within normal range in the dyspepsia cases.

Norsk Magazin for Lægevidenskaben, Christiania

February, 1923, **84**, No. 2

*Objective Test for Neurasthenia. G. H. Monrad-Krohn.—p. 113.
*Tuberculous Brain Tumor. F. Harbitz and Monrad-Krohn.—p. 119.
*Autogenous Vaccine in Pyelitis. O. Jervell.—p. 126.
*Erythema Nodosum. A. Wiborg.—p. 135.
*Determination of Nonprotein Nitrogen in Blood. Arnesen.—p. 136.
*Specific and Nonspecific Therapy. K. Hansen.—p. 153.

Test for Fatigue in Neurasthenia. — Monrad-Krohn gives an illustrated description of an apparatus with movable diaphragm which shows the visual field for each eye separately, and the amount of overlapping of these fields in binocular vision. The test is made with a single long number of thirty digits. In his hundreds of applications of this test, the overlapping digits were numerous only in persons much fatigued from recent exertion. By this means we can tell whether the neurasthenic subject is overdoing, and thus be able to guide him into safe channels. He adds that work at home, or family "scenes" are often more fatiguing than a day's work outside.

Tuberculosis of Base of Brain. — Harbitz and Monrad-Krohn report a case of tuberculoma of the optopeduncular region, and signs of old and manifestly regressive tuberculous meningitis; the pituitary was intact. The man aged 27 had been apparently healthy until frontal headache developed and vision became impaired. The symptoms progressed to a fatal termination in five weeks.

Autogenous Vaccines in Treatment of Pyelitis. — Jervell relates that only nineteen of his fifty cases of pyelitis were treated with autovaccines. The colon bacillus was responsible for the pyelitis in these cases. Only six were cured and five improved; no effect was apparent in eight. The patient's serum agglutinated the colon bacillus only in seven cases.

Erythema Nodosum.—Wiborg states that in a recent series of thirty cases of erythema nodosum 86.67 per cent. were children. Most of the cases occurred in a single month, but there were only single cases in the different families. The affection seemed to rouse a latent tuberculosis in some of the cases.

Nonprotein Nitrogen in the Blood. — Arnesen points out some sources of error in the current tests for nonprotein nitrogen in the blood or serum, and describes means to insure precision. He tabulates the findings in a number of cases for comparison.

Specific and Nonspecific Therapy.—Hansen reviews recent literature on protein therapy and shock therapy in general. The nonspecific substances seem to act alike, and there is not much choice between them. Certain facts observed suggest, however, that some of these substances have an elective stimulating action on certain cells. This opens a new field for research.

Ugeskrift for Læger, Copenhagen

Feb. 1, 1923, **85**, No. 5

*Psychic Disturbances After Epidemic Encephalitis. K. Winther.—p. 73.
*Calcium Treatment of Nervous Headache. C. I. Baastrup.—p. 75.
Cannula and Syringe for Treatment of Syphilis. K. Philipsen.—p. 77.

Postencephalitic Psychic Disturbances. — Winther relates that 8 of his 31 patients with epidemic encephalitis presented confusion, delirium or stupor during the acute phase. In 4 cases the acute phase was followed by a state of apathy and inability to work, which lasted for from six months to three years. In 4 others this psychasthenia was accompanied with irritability and emotional instability. This stage lasted from six months to two and a half years. The trend was towards final complete recovery in these two groups. In 2 men, aged about 50, a manic-depressive condition followed the acute phase, and incapacitated the men for a year, with final recovery. Two men in the twenties had apparently recovered from the encephalitis, but two years later developed maniacal excitement and motor agitation. This condition gradually subsided in a month, but one was left with a complete change of character, irritable and thieving. The connection with the encephalitis two years before was evident from the bilateral paresis of accommodation and insufficiency of convergence, which testify to epidemic encephalitis, as well as the severe motor symptoms suggesting chorea. The complete Korsakoff syndrome developed in one man, aged 47, four years after epidemic encephalitis. In 6 cases of the disease in previously normal children, the acute phase was followed by symptoms of psychopathic degeneration. They have persisted unmodified for two years to date. Probably many of the inmates of our asylums have a history of epidemic encephalitis in childhood although the disease may have escaped recognition at the time. The children with these congenital and acquired degenerative psychopathies should be placed in a special institution where they would be under strict supervision and teaching. Kleptomania is common among them. In Winther's 25 cases of epidemic encephalitis, 1918 to 1922, 11 patients died in the acute stage and he has lost track of 2. Of the other 12, none had recovered within six months; severe mental disturbances were still evident two years later in 5, and 2 others presented disturbances of a milder form.

Calcium Treatment of "Nervous Headache." — Baastrup reports experiences which justify tentative calcium treatment in all cases of rebellious headache for which no special cause can be discovered. In some patients in this class a tendency to recurring attacks of Quincke's edema suggested that the headache might be due to the intracranial extension of the process, and that calcium would be the logical treatment. A familial predisposition was always evident in this group. The recurring attacks and puffiness under the eyes, swelling of the lips and other manifestations of Quincke's edema were accompanied by the severe headache. The portrait of the grandfather of one of these patients showed the same puffiness under the eyes. Baastrup gave calcium lactate, 1 gm. one to three times a day for three weeks, and then with longer intervals for ten days. The results were excellent: The edema and the headache subsided, as also a vasomotor rhinitis which had proved refractory for several years. In other cases absolutely no cause could be discovered for the "nervous headache," but the calcium tablets proved equally effectual. The children in these families were usually of the exudative diathesis type. The blood may show a lymphatic tendency in cases of nervous headache, and this is a further indication for calcium treatment.

Feb. 8, 1923, **85**, No. 6

Fracture of Coronoid Process of Ulna. H. Abrahamsen.—p. 89.
Metal Bands for Fractured Bones. Schleisner.—p. 91.
Modern Treatment of Tropical Diseases. H. C. Gram.—p. 92.
*Calcium Treatment of Nervous Headache. A. Tofte.—p. 97.

Nervous Headache.—Tofte confirms Winther's statements and reports an instructive case of rebellious headache after an abortion. The blood was of the lymphatic type, and the woman was weak and languid. Under calcium, conditions returned to approximately normal, and a normal pregnancy followed. The calcium was kept up throughout, and only once was there a transient tendency to headache.

Upsala Läkareförenings Förhandlingar, Upsala

Feb. 10, 1923, **28**, No. 3-4

*Psychic Energy and Mental Insufficiency. H. Sjöbring.—p. 163.
*Sugar Content of the Blood in Fever. B. Jacobowsky.—p. 215.
*Anatomy of Rabbit Skeleton. H. A. Landing.—p. 237.

Psychic Energy and Mental Insufficiency.—Sjöbring discusses (in English) what energy means in relation to psychic activity. He explains the importance of the energy problem for both organic psychoses and functional psychic disturbances.

The Blood Sugar Curve After Heat Puncture.—Jacobowsky concludes from his experiments on rabbits that the rise in temperature induced by heat-puncture does not cause hyperglycemia. Consequently he assumes that the high sugar content of the blood in febrile infectious conditions is not due to the fever itself but to the action of infection toxins.

Study of Skeleton at Different Ages. — Landing reports extensive research on the anatomy and course of ossification of the bones in fifty male and fifty-five female rabbits.